

UNIT 1: DATA, INFORMATION AND KNOWLEDGE: INTELLECTUAL ASSETS

Q1. What is the correct ascending order of value in the hierarchy of data, information, and knowledge?

- a) Knowledge, Information, Data
- b) Data, Information, Knowledge
- c) Information, Data, Knowledge
- d) Knowledge, Data, Information

Answer: b) Data, Information, Knowledge

Explanation: Data represents raw, unprocessed facts. Information is derived from processing data, while knowledge is an organized set of information that allows reasoning or judgment. Thus, data is the building block for information, and information is the building block for knowledge.

Q2. In the example of cotton, yarn, and cloth, what does "cloth" represent in the context of data, information, and knowledge?

- a) Data
- b) Information
- c) Knowledge
- d) Wisdom

Answer: b) Information

Explanation: In the analogy, cotton represents data (raw material), yarn represents processed data (information), and cloth (finished product) represents information that can be further organized into knowledge.

Q3. Which of the following best describes knowledge?

- a) A collection of raw facts
- b) Processed data with context
- c) An organized set of statements with reasoned judgment
- d) A record of daily transactions

Answer: c) An organized set of statements with reasoned judgment

Explanation: Knowledge is more than just processed data or facts. It is an organized and reasoned judgment derived from information and is often used in teaching, learning, and research.

Q4. What role does information play between data and knowledge?

- a) Information is a form of raw data
- b) Information is the result of knowledge processing
- c) Information acts as the intermediary between data and knowledge
- d) Information is unrelated to data and knowledge

Answer: c) Information acts as the intermediary between data and knowledge

Explanation: Information is derived from the processing of data and serves as the building block that leads to the creation of knowledge. It transforms raw data into meaningful context, which can be further organized into knowledge.

Q5. According to Fritz Machlup, how is information knowledge scribed in comparison to knowledge?

- a) Information is a stock, while knowledge is a flow
- b) Information is fragmented, while knowledge is structured
- c) Information is always useful, while knowledge is not
- d) Information is timeless, while knowledge is transitory

Answer: b) Information is fragmented, while knowledge is structured

Explanation: Fritz Machlup emphasizes that information is piecemeal, fragmented, and transitory, while knowledge is structured, coherent, and often has enduring significance. Information flows, while knowledge is a stock resulting from accumulated information.

Q6. What is the key difference between information and knowledge as per the explanation?

- a) Information is about future events, while knowledge deals with past events
- b) Information is acquired through teaching, while knowledge is inherited
- c) Information is timely and transitory, while knowledge is enduring and structured
- d) Information is always correct, while knowledge can be wrong

Answer: c) Information is timely and transitory, while knowledge is enduring and structured

Explanation: Information is often seen as timely and short-lived, while knowledge tends to be more structured, coherent, and of enduring significance. Information serves as input to build knowledge over time.

Q7. Which of the following statements best defines wisdom in the context of knowledge?

- a) Wisdom is a collection of facts and data
- b) Wisdom is a trait acquired through knowledge, experience, and judgement
- c) Wisdom is the ability to memorize information quickly
- d) Wisdom is a flow of messages accumulated over time

Answer: b) Wisdom is a trait acquired through knowledge, experience, and judgement

Explanation: Wisdom is described as a personal trait that is gained through the acquisition of sound knowledge and virtues over time, combined with experience and judgement. It allows individuals to make better decisions by foreseeing future consequences.

Q8. How does knowledge contribute to the process of decision-making, ?

- a) By providing detailed reports and statistics
- b) By offering theories and conceptual frameworks for understanding relationships
- c) By supplying contemporary news and updates
- d) By presenting a flow of fragmented facts

Answer: b) By offering theories and conceptual frameworks for understanding relationships

Explanation: Knowledge involves forming connections between data and information, which can result in theories or frameworks that aid in understanding and decision-making. It allows individuals to see the broader context and make informed choices based on accumulated knowledge.

Q9. What is the primary factor in determining the type of services a library or information center should offer?

- a) The available budget of the library
- b) The personal preferences of the library staff
- c) The information needs of the users
- d) The collection size of the library

Answer: c) The information needs of the users

Explanation: Libraries and information centers build collections and offer services primarily to meet the information needs of their users, which often depends on the parent organization's activities and objectives.

Q10. Which of the following is NOT one of the four typical areas where libraries handle data, information, and knowledge?

- a) Education, training, and research
- b) Mass communication
- c) Healthcare services
- d) Business and industry

Answer: c) Healthcare services

Explanation: The four typical areas mentioned where libraries handle data, information, and knowledge include education, government affairs, business and industry, and mass communication. Healthcare services are not specifically mentioned.

Q11. How do libraries organize data, information, and knowledge ?

- a) By focusing on specific types of collections only
- b) By handling a broad canvas of data, information, and knowledge across multiple areas
- c) By prioritizing only data and excluding knowledge
- d) By categorizing resources based on popular demand

Answer: b) By handling a broad canvas of data, information, and knowledge across multiple areas

Explanation: Libraries and information centers organize services across a wide range of data, information, and knowledge relevant to different fields such as education, government, business, and mass communication.

Q12. , how are data, information, and knowledge in libraries related to one another?

- a) They are mutually exclusive and cannot be used together
- b) They are independent but can be useful in multiple contexts
- c) They are only relevant within specific areas of study
- d) They must always be used in a particular order

Answer: b) They are independent but can be useful in multiple contexts

Explanation: The data, information, and knowledge are not mutually exclusive and can be applied in various contexts depending on the needs of the users and the nature of the information being sought.

UNIT 2 DATA: DEFINITION, TYPES, NATURE, PROPERTIES AND SCOPE

Q13. According to Webster's Third New International Dictionary, how is data defined?

- a) A representation of knowledge
- b) Something given or admitted; facts or principles presented
- c) A collection of numerical values from scientific

experiments

d) An essential part of scientific interpretation

Answer: b) Something given or admitted; facts or principles presented

Explanation: Webster's Dictionary defines data as something given or admitted, including facts or principles presented as the basis for inference or construction of any system.

Q14. What does UNESCO's definition of data emphasize?

- a) Data as numerical values derived from experiments
- b) Data as concepts or instructions suitable for communication, interpretation, or processing
- c) Data as a collection of qualitative observations
- d) Data as symbolic representation of knowledge

Answer: b) Data as concepts or instructions suitable for communication, interpretation, or processing

Explanation: UNESCO defines data as facts, concepts, or instructions that are formalized in a manner suitable for communication, interpretation, or processing by human or automated means.

Q15. What are the two essential attributes of data, according to CODATA's definition?

- a) Clarity and flexibility
- b) Accuracy and clarity
- c) Complexity and coherence
- d) Interpretation and calculation

Answer: b) Accuracy and clarity

Explanation: CODATA defines data as the crystallized presentation of the essence of scientific knowledge. Two essential attributes highlighted are clarity and accuracy.

Q16. How does data differ in the humanities compared to the sciences ?

- a) In the humanities, data is fixed and finite, while in the sciences, it is constantly expanding
- b) In the sciences, data is qualitative, while in the humanities, it is quantitative
- c) Data in the humanities is easier to interpret than in the sciences
- d) Data in the humanities comes only from written texts, while in the sciences, it comes from experiments

Answer: a) In the humanities, data is fixed and finite, while in the sciences, it is constantly expanding

Explanation: In the humanities, data is often a fixed and finite quantity of text, such as Biblical materials or Shakespearean dramas, whereas in the sciences, data is constantly expanding through scientific experiments and observations.

Q17. How does the CODATA Task Group categorize time-independent data?

- a) Data that can only be measured once
- b) Data dependent on the location of objects measured
- c) Data that can be measured repeatedly
- d) Data generated through theoretical calculations

Answer: c) Data that can be measured repeatedly

Explanation: Time-independent data refers to data that can be measured repeatedly, such as geological structures or fixed stars, which do not change over time.

Q18. Which of the following is an example of time-dependent data?

- a) Data on pure physics and chemistry
- b) Data related to fixed stars
- c) Data on volcanic eruptions
- d) Data derived from theoretical models

Answer: c) Data on volcanic eruptions

Explanation: Time-dependent data can only be measured once, such as volcanic eruptions or rare

geophysical phenomena, which occur at specific moments in time.

Q19. What are location-independent data?

- a) Data that is dependent on the geographical location of objects
- b) Data that is independent of the location where the objects are measured
- c) Data that can be measured repeatedly over time
- d) Data used for theoretical calculations

Answer: b) Data that is independent of the location where the objects are measured

Explanation: Location-independent data refers to data that does not depend on the location of the objects measured, such as data in pure physics or chemistry.

Q20. How are derived (reformatted) data classified in the context of data generation?

- a) Data obtained directly from experiments or observations
- b) Data derived by combining primary data with a theoretical model
- c) Data predicted using theoretical calculations
- d) Data that is time- and location-independent

Answer: b) Data derived by combining primary data with a theoretical model

Explanation: Derived (reformatted) data are obtained by combining several primary data with the help of a theoretical model, such as using multiple measurements to generate new data points.

More info:

Type of Data	Category	Description
Data with reference to time factor	Time-independent data	Data measured repeatedly, e.g., geological structures, rocks, fixed stars.
	Time-dependent data	Data measured only once, e.g., volcanic

		eruptions, solar flares, rare fossils.
Data with reference to location factors	Location-independent data	Data independent of location, e.g., data on pure physics and chemistry.
	Location-dependent data	Data dependent on the location of objects, e.g., data on rocks, earth sciences, and astronomy.
Data with reference to mode of generation	Primary data	Data obtained by experiment or observation, e.g., values of velocity.
	Derived (reformatted) data	Data derived by combining several primary data with a theoretical model.
	Theoretical (predicted) data	Data derived by theoretical calculations, e.g., solar eclipse predictions.
Data with reference to nature of quantitative values	Determinable data	Data with a definite value under given conditions, usually time dependent.
	Stochastic data	Data with fluctuating values from one sample or measurement to another, e.g., most geosciences data.
Data with reference to terms of expression	Quantitative data	Data expressed in well-defined units and numerical values, e.g., most data in physical sciences.
	Semi-quantitative data	Data based on 'Yes' or 'No' responses, often coded as '1' and '0', e.g., classification of organisms in biology.

	Qualitative data	Data expressed in definitive statements, nearly equivalent to established knowledge.
Data with reference to mode of presentation	Numerical data	Data presented in numerical values, e.g., quantitative data.
	Graphic data	Data presented in graphic form, charts, or maps.
	Symbolic data	Data presented symbolically, e.g., weather data symbols.

More info: types of data in social sciences:

Type of Data	Category	Description
Data with reference to scale of measurement	Nominal data	Data used for assigning numbers as identification without implying any order, e.g., classification of journals by discipline.
	Ordinal data	Data showing ordered or graded relationships among observations, e.g., rankings of library staff performance as poor, average, good, excellent.
	Interval data	Data with meaningful intervals between values, but no true zero point, e.g., IQ measurements grouped in intervals (10-20, 20-30).

	Ratio data	Data with quantitative measurements that include a true zero point, allowing for comparisons such as "twice as much," e.g., weight, distance, price.
--	------------	--

Q21. What is nominal data in the context of social sciences?

- a) Data that indicates the rank or order of categories
- b) Data used for assigning numbers as identification of individual units
- c) Data that measures the quantitative magnitude of variables
- d) Data that shows the difference between categories but not the exact amount

Answer: b) Data used for assigning numbers as identification of individual units

Explanation: Nominal data assigns numbers for identification purposes, such as classifying journals by discipline. The numbers represent only the name of the category without indicating any order.

Q22. How are ordinal data characterized?

- a) Data that measures exact amounts of difference between categories
- b) Data that assigns numbers without implying any order
- c) Data that indicates ordered or graded relationships among observations
- d) Data that measures quantitative variables in terms of magnitude

Answer: c) Data that indicates ordered or graded relationships among observations

Explanation: Ordinal data indicate a ranked relationship among categories, showing the direction of the difference but not the exact amount, like

assigning ranks to different levels of library staff responsiveness.

Q23. In which type of data does zero not imply the absence of the variable?

- a) Nominal data
- b) Ordinal data
- c) Interval data
- d) Ratio data

Answer: c) Interval data

Explanation: In interval data, zero does not indicate the absence of the variable. For instance, in measuring IQ, a value of 0 does not mean the absence of intelligence, and the intervals between data points are meaningful.

Q24. What is a characteristic of ratio data in social sciences?

- a) It assigns numbers for identification without any order
- b) It shows the direction of the difference but not the exact amount
- c) It allows for quantitative measurement where one value can be expressed as a multiple of another
- d) It uses intervals between categories without implying a starting point

Answer: c) It allows for quantitative measurement where one value can be expressed as a multiple of another

Explanation: Ratio data involve quantitative measurements with a true zero point, allowing for comparisons such as one item being twice as much as another, like in measurements of weight or price.

Q25. What characterizes continuous data?

- a) Data with a finite or countable set of values
- b) Data that can take an infinite number of possible values within a range
- c) Data that includes a fixed number of

observations

d) **Data with values limited to whole numbers only**

Answer: b) Data that can take an infinite number of possible values within a range

Explanation: Continuous data can have an infinite number of values between any two points. For example, height can be 155.59 cm or 155.99 cm, reflecting continuous variation.

Q26. What is an example of discrete data?

- a) **Height measurements of individuals**
- b) **The number of vehicles registered in a city**
- c) **Temperature readings over a day**
- d) **Time series data on library book additions**

Answer: b) The number of vehicles registered in a city

Explanation: Discrete data consists of countable, finite values. The number of registered vehicles is an example because it is counted in whole numbers.

Q27. Which type of data involves observing only one characteristic?

- a) **Multivariate data**
- b) **Bivariate data**
- c) **Univariate data**
- d) **Time series data**

Answer: c) Univariate data

Explanation: Univariate data involves observations based on a single characteristic, such as student performance in a class.

Q28. What distinguishes time series data from cross-sectional data?

- a) **Time series data is collected at a single point in time, while cross-sectional data is recorded across multiple time points**
- b) **Cross-sectional data is recorded in chronological order, while time series data is**

gathered for different units at one time

c) **Time series data is recorded across multiple time points, while cross-sectional data is collected for different units at a single point in time**

d) **Cross-sectional data includes observations on multiple characteristics, while time series data focuses on one characteristic**

Answer: c) Time series data is recorded across multiple time points, while cross-sectional data is collected for different units at a single point in time

Explanation: Time series data tracks changes over time, such as monthly production rates, while cross-sectional data provides a snapshot at a particular time, such as data from different regions or groups at one point in time.

More info:

Type of Data	Category	Description
Data with reference to origin	Continuous data	Data collected firsthand through direct observation, counting, measurement, interviews, or questionnaires, e.g., market survey data.
	Secondary data	Data initially collected for one purpose but used later for another, e.g., data from census reports, books, or monographs.
Data with reference to characteristic	Quantitative data	Data resulting from measuring the magnitude of characteristics, e.g., age, price, income.

	Qualitative data	Data based on qualities or attributes rather than numerical measures, e.g., sex, color, intelligence.
--	------------------	---

This table categorizes data based on their origin and characteristic, providing a clear distinction between different types of data.

Q29. What distinguishes primary data from secondary data?

- a) **Primary data is obtained through direct observation or measurement, while secondary data is collected from previously published sources**
- b) Secondary data is gathered from direct interviews or observations, while primary data is collected through books and reports
- c) Primary data is used for general analysis, while secondary data is specific to individual studies
- d) Secondary data includes real-time data collection, while primary data consists of historical data

Answer: a) Primary data is obtained through direct observation or measurement, while secondary data is collected from previously published sources

Explanation: Primary data is collected directly from original sources through methods such as interviews or surveys, whereas secondary data refers to information that was originally collected for other purposes and later reused, such as data from reports or census.

Q30. What type of data results from measuring the magnitude of characteristics?

- a) Qualitative data
- b) **Quantitative data**
- c) Secondary data
- d) Primary data

Answer: b) Quantitative data

Explanation: Quantitative data involves measurements of numerical values, such as age,

income, or price, which quantify the magnitude of the observed characteristics.

Q31. Which type of data is characterized by qualities or attributes rather than measurements?

- a) **Quantitative data**
- b) Primary data
- c) Secondary data
- d) Qualitative data

Answer: d) Qualitative data

Explanation: Qualitative data refers to non-numeric attributes or qualities, such as the color of a person's eyes or their level of intelligence, rather than measurable quantities.

Q32. How are numerical data generally characterized in the sciences?

- a) Numerical data are always qualitative and descriptive
- b) **Numerical data are derived from measurement and are stated in numerical values**
- c) Numerical data are used exclusively for graphic representation
- d) Numerical data include only qualitative statements

Answer: b) Numerical data are derived from measurement and are stated in numerical values

Explanation: In sciences, numerical data are obtained through measurements and are expressed in numerical terms. This includes data that is quantitative and can be represented with numbers.

Q33. What type of data is typically expressed in terms of definitive statements about objects in the sciences?

- a) Numerical data
- b) **Descriptive data**
- c) Graphic data
- d) Symbolic data

Answer: b) Descriptive data

Explanation: Descriptive data in the sciences involves qualitative statements about objects, providing detailed descriptions rather than numerical values. These statements describe the characteristics or attributes of the objects being studied.

Q34. What distinguishes enumerative data from descriptive data in the social sciences?

- a) Enumerative data are derived by statistical techniques, while descriptive data involve qualitative statements
- b) Descriptive data are always quantitative, while enumerative data are qualitative
- c) Enumerative data are less refined than descriptive data
- d) Descriptive data are derived by counting and measurement, while enumerative data are qualitative

Answer: a) Enumerative data are derived by statistical techniques, while descriptive data involve qualitative statements

Explanation: In social sciences, enumerative data involves counting and are often refined using statistical techniques to make them more meaningful. Descriptive data provide qualitative statements about phenomena and can be converted into numerical data if needed.

Q35. In the context of library science, how are bibliographic and non-bibliographic data differentiated?

- a) Bibliographic data are descriptive, while non-bibliographic data are enumerative
- b) Bibliographic data are used for management purposes, while non-bibliographic data are for cataloguing
- c) Bibliographic data include quantitative measurements, while non-bibliographic data are qualitative
- d) Bibliographic data are used exclusively for statistical analysis, while non-bibliographic data are not

Answer: a) Bibliographic data are descriptive, while non-bibliographic data are enumerative

Explanation: In library science, bibliographic data involves descriptive information such as cataloguing and indexing. Non-bibliographic data, such as books acquired or lent, and visitor statistics, are enumerative and pertain to management aspects of the library.

Q36. What does "amenability of use" refer to in the context of data properties?

- a) Data should be clear and easy to understand
- b) Data should be accurate and real
- c) Data should be practical and useful for decision-making
- d) Data should be compressed and refined

Answer: c) Data should be practical and useful for decision-making

Explanation: Amenability of use means that data should be practical and useful for making decisions. Data that cannot be used effectively do not serve their intended purpose.

Q37. According to the CODATA definition, what is the significance of clarity in data?

- a) Data should be accurate and real
- b) Data should be presented in a detailed manner
- c) Data should clearly communicate the essence of the matter
- d) Data should be aggregated and refined

Answer: c) Data should clearly communicate the essence of the matter

Explanation: Clarity is crucial for data because it ensures that the data effectively communicates the core meaning and purpose. Without clarity, the intended message of the data may not be understood.

Q38. Why is accuracy considered an essential property of data?

- a) It allows data to be compressed and refined
- b) It ensures data can be easily aggregated

- c) It provides a basis for drawing valid conclusions
- d) It makes data visually appealing

Answer: c) It provides a basis for drawing valid conclusions

Explanation: Accuracy is essential because it ensures that the data is real, complete, and correct. Accurate data is necessary for making valid and reliable conclusions.

Q39. How does "compression" of data contribute to its usefulness?

- a) It adds more details to the data
- b) It makes large amounts of data more manageable and quickly understandable
- c) It enhances the accuracy of the data
- d) It allows data to be presented in a graphical form

Answer: b) It makes large amounts of data more manageable and quickly understandable

Explanation: Compression helps to distill large volumes of data into a more digestible form, making it easier to understand and use effectively.

Q40. What is meant by "refinement" of data?

- a) The process of compressing data for easier use
- b) The collection of data from various sources
- c) The processing of data to lead to conclusions or new insights
- d) The aggregation of data into larger datasets

Answer: c) The processing of data to lead to conclusions or new insights

Explanation: Refinement involves processing data to reveal insights or draw conclusions. It helps in understanding the data better and discovering new facts.

Q41. What is the primary utility of data in research and decision-making?

- a) Data helps in designing new experiments
- b) Data is essential for solving problems and

- making informed decisions
- c) Data is used primarily for recording historical events
- d) Data is only useful for academic purposes

Answer: b) Data is essential for solving problems and making informed decisions

Explanation: Data is crucial for solving problems and making informed decisions, as it forms the basis for research, planning, and decision-making processes.

Q42. How does the "size of data" relate to its scope in scientific research?

- a) It refers to the number of researchers involved
- b) It encompasses the coverage of the subject, data elements, and data population
- c) It indicates the duration of the research project
- d) It measures the cost associated with data collection

Answer: b) It encompasses the coverage of the subject, data elements, and data population

Explanation: The size of data relates to its scope by covering the extent of the subject under study, including data elements and the population of data sources, such as documents and surveys.

Q43. What role do governments play in the collection and organization of data?

- a) They primarily focus on historical data preservation
- b) They establish data systems for socio-economic and policy research
- c) They collect data only for scientific purposes
- d) They use data solely for academic research

Answer: b) They establish data systems for socio-economic and policy research

Explanation: Governments set up data systems to collect and organize data necessary for socio-economic research, policy formulation, and planning.

Q44. What is the significance of international bodies in data collection?

- a) They collect data only for financial purposes
- b) They gather and organize data to aid in global policy research and planning
- c) They are involved in local data collection only
- d) They primarily focus on historical data preservation

Answer: b) They gather and organize data to aid in global policy research and planning

Explanation: International bodies like the International Monetary Fund and International Labour Organization collect and organize data to support global policy research and planning.

Q45. Why is specifying the "period of data" important in research?

- a) It determines the number of researchers needed
- b) It clarifies whether the data is current or cumulative
- c) It impacts the cost of data collection
- d) It influences the type of data analysis used

Answer: b) It clarifies whether the data is current or cumulative

Explanation: Specifying the period of data is crucial as it indicates whether the data is current or covers a cumulative time span, which affects the interpretation and conclusions drawn from the research.

UNIT 3 INFORMATION: DEFINITION, TYPES, NATURE, PROPERTIES AND SCOPE

Q46. How does the knowledge spectrum view the relationship between data, information, knowledge, and wisdom?

- a) They are viewed as separate entities with distinct boundaries
- b) They are part of a continuum, each leading to the next without clear boundaries
- c) They are only relevant in specific disciplines
- d) They are considered the same thing

Answer: b) They are part of a continuum, each leading to the next without clear boundaries

Explanation: The knowledge spectrum views data, information, knowledge, and wisdom as part of a continuum, with each stage leading to the next, and no clear boundaries between them.

Q47. What distinction does Belkin make between definition and concept in information science?

- a) Definitions focus on historical aspects, while concepts focus on current use
- b) Definitions define the phenomenon, while concepts interpret the phenomenon
- c) Definitions are more abstract, while concepts are more concrete
- d) Definitions are universal, while concepts are specific to disciplines

Answer: b) Definitions define the phenomenon, while concepts interpret the phenomenon

Explanation: Belkin distinguishes between definition and concept by stating that definitions aim to define the phenomenon, while concepts focus on interpreting it.

Q48. What are the three approaches Belkin postulates for determining the requirement of an information concept?

- a) Historical, Theoretical, Practical
- b) Methodological, Behavioral, Definitional
- c) Empirical, Abstract, Applied
- d) Quantitative, Qualitative, Comparative

Answer: b) Methodological, Behavioral, Definitional

Explanation: Belkin postulates three approaches: Methodological (utility of the concept), Behavioral (phenomena the concept must account for), and Definitional (context of the concept).

Q49. Which of the following requirements pertains to the relevance of information to user communities according to Belkin?

- a) **Requirement 7: It must generalize beyond the individual case**
- b) **Requirement 1: It must refer to information within the context of purposeful, meaningful communication**
- c) **Requirement 4: It must account for the relationship between information and state of knowledge of generator and recipient**
- d) **Requirement 5: It should account for the effect of information on the recipient**

Answer: b) **Requirement 1: It must refer to information within the context of purposeful, meaningful communication**

Explanation: Requirements 1 to 6 pertain to the relevance of information to user communities, with Requirement 1 focusing on the context of purposeful, meaningful communication.

Q50. Which requirements are considered operational requirements for designing and developing useful information systems according to Belkin?

- a) **Requirements 1 and 2**
- b) **Requirements 7 and 8**
- c) **Requirements 3 and 4**
- d) **Requirements 5 and 6**

Answer: b) **Requirements 7 and 8**

Explanation: Requirements 7 and 8 are operational requirements for designing and developing useful models of information systems, focusing on generalization and prediction of the effect of information.

Q51. What is the primary focus of the Structural Approach to information as proposed by Wersig and Neveling?

- a) **Information as a process occurring in the human mind**
- b) **Information as structures of the world or static relations between physical objects**
- c) **Information as a specific effect of a process**
- d) **Information as symbols oriented in a physical carrier**

Answer: b) **Information as structures of the world or static relations between physical objects**

Explanation: The Structural Approach views information as structures of the world or static relations between physical objects, focusing on matter-oriented perspectives.

Q52. Why is the Knowledge Approach to information not recommended by Wersig and Neveling?

- a) **It focuses on the semantic content of a message**
- b) **It is not considered a social process**
- c) **It uses knowledge and information as synonyms**
- d) **It is only relevant to mathematical theory**

Answer: c) **It uses knowledge and information as synonyms**

Explanation: The Knowledge Approach is not recommended because it uses knowledge and information interchangeably, which can be problematic.

Q53. What does the Message Approach to information involve according to Wersig and Neveling?

- a) **Information as a reduction of uncertainty caused by communication**
- b) **Information as symbols oriented in a physical carrier**
- c) **Information as a process occurring in the human mind**
- d) **Information as structures of the world**

Answer: b) **Information as symbols oriented in a physical carrier**

Explanation: The Message Approach records information as symbols oriented in a physical carrier, relevant to the mathematical theory of communication.

Q54. What is the key focus of the Effect Approach or Recipient-Oriented Approach in the study of information?

- a) **Information as a social process**
- b) **Information as the semantic content of a message**
- c) **Information as a specific effect of a process**

d) Information as a process occurring in the human mind

Answer: c) Information as a specific effect of a process

Explanation: The Effect Approach focuses on information occurring as a specific effect of a process, emphasizing its impact on the recipient.

Q55. How does Brookes define the relationship between knowledge and information?

- a) Knowledge is a summation of many bits of information organized into a coherent entity
- b) Knowledge and information are used as synonyms
- c) Knowledge is derived solely from mathematical expressions of information
- d) Knowledge is an isolated entity unaffected by information

Answer: a) Knowledge is a summation of many bits of information organized into a coherent entity

Explanation: According to Brookes, knowledge is seen as a summation of many bits of information that have been organized into a coherent entity.

Q56. What does Brookes' fundamental equation of information science express?

- a) The exact measure of change in knowledge structures
- b) The relationship between data and information in a mathematical form
- c) The change in a knowledge structure caused by the addition of information
- d) The process of information as a social construct

Answer: c) The change in a knowledge structure caused by the addition of information

Explanation: Brookes' equation expresses how a knowledge structure changes when bits of information are added, reflecting modifications in the structure without providing an exact measure of change.

Q57. What is the primary focus of Brookes's fundamental equation of information science, $K[S] + I = \Delta[S + S]?$

- a) The exact measurement of changes in knowledge structures
- b) The relationship between data and information
- c) The modification of a knowledge structure by the addition of information
- d) The process of information as a social construct

Answer: c) The modification of a knowledge structure by the addition of information

Explanation: Brookes's equation highlights how a knowledge structure is modified by the addition of information, reflecting changes without providing an exact measure.

Q58. How does Brookes define "information" in relation to knowledge?

- a) As a synonym for knowledge
- b) As a small part of a structure of concepts linked by their relationships
- c) As an entity that does not affect knowledge structures
- d) As a general process occurring in human activity

Answer: b) As a small part of a structure of concepts linked by their relationships

Explanation: Brookes defines information as a small part of a structure of concepts linked by their relationships, integrating into a larger knowledge structure.

Q59. What is Daniel Bell's view on the role of information in the transition to a post-industrial society?

- a) Information is a minor factor in social transformation
- b) Information and knowledge are central to social transformation and innovation
- c) Information is irrelevant in the context of social transformation
- d) Information primarily affects industrial processes

Answer: b) Information and knowledge are central to social transformation and innovation

Explanation: Bell emphasizes that information and knowledge are crucial for transforming society from

industrial to post-industrial, highlighting their role in innovation and policy formation.

Q60. According to Bell, what does information processing involve?

- a) Storing and processing data as the essential resource for economic and social changes
- b) Analyzing the philosophical implications of information
- c) Creating theoretical knowledge without practical applications
- d) Ignoring data in favor of intuitive judgments

Answer: a) Storing and processing data as the essential resource for economic and social changes

Explanation: Bell sees information processing as crucial for economic and social changes, involving the storage and processing of data for various applications like payroll, credit clearances, and more.

Q61. How does Bell define knowledge in relation to information?

- a) As random facts and ideas without systematic organization
- b) As an organized set of facts or ideas transmitted systematically
- c) As purely experimental results without communication
- d) As non-systematic judgments collected in libraries

Answer: b) As an organized set of facts or ideas transmitted systematically

Explanation: Bell defines knowledge as an organized set of facts or ideas presented in a systematic form, distinguishing it from mere data processing.

Q62. How does Fritz Machlup distinguish between information and knowledge?

- a) Information is structured and enduring, while knowledge is fragmented and transient
- b) Information is piecemeal and ephemeral, while knowledge is structured and enduring
- c) Information is static, and knowledge is dynamic
- d) Information is a stock, and knowledge is a flow of messages

Answer: b) Information is piecemeal and ephemeral, while knowledge is structured and enduring

Explanation: Machlup distinguishes information as piecemeal, fragmented, and transitory, whereas knowledge is described as structured, coherent, and often of enduring significance.

Q63. According to Machlup, what role does information play in relation to knowledge?

- a) It competes with knowledge for importance
- b) It is irrelevant to the formation of knowledge
- c) It affects the stock of knowledge by adding to, restructuring, or changing it
- d) It remains separate from the development of knowledge

Answer: c) It affects the stock of knowledge by adding to, restructuring, or changing it

Explanation: Machlup views information as impacting the stock of knowledge by adding to it, restructuring it, or changing it in some way.

Q64. What sectors were influenced by Machlup's approach to information studies?

- a) Only primary information providers
- b) Only computer-based information providers
- c) Various sectors including primary, secondary, and computer-based information providers
- d) Only seminar and conference services

Answer: c) Various sectors including primary, secondary, and computer-based information providers

Explanation: Machlup's approach influenced a variety of sectors including primary information providers, secondary information providers, computer-based information providers, and other related services.

Q65. What is a key aspect shared by both Machlup's and Bell's approaches to information?

- a) Information is considered a minor economic factor

- b) Library and information services are seen as essential infrastructure
- c) Information is viewed as irrelevant to social transformation
- d) Knowledge and information are treated as synonymous

Answer: b) Library and information services are seen as essential infrastructure

Explanation: Both Machlup and Bell emphasize the essential role of library and information services as infrastructure for human activity, akin to sectors like finance, transport, and power.

Q66. How can information be classified based on the source characteristic?

- a) By the medium used to transmit the information
- b) By the type of information needs it addresses
- c) By the form in which it is communicated, such as signals, text, or graphics
- d) By the ultimate recipient of the information

Answer: c) By the form in which it is communicated, such as signals, text, or graphics

Explanation: Classification by source involves grouping information based on how it is communicated, whether through signals, text matter, or graphics.

Q67. What are examples of information classified by source as signals?

- a) Photographs and Pictures
- b) Mathematical formulae and Statistical data
- c) Textual descriptions and Articles
- d) Graphs and Charts

Answer: b) Mathematical formulae and Statistical data

Explanation: Signals in this context refer to information like mathematical formulae and statistical data, which are communicated in symbolic or numerical forms.

Q68. Which characteristic of the modified Shannon-Weaver Model of information transfer involves the physical carriers of information?

- a) Source
- b) Channel
- c) Media
- d) Recipient

Answer: c) Media

Explanation: Media are the physical carriers that convey messages or contents of information.

Q69. What does the characteristic "Information Needs" refer to in the classification of information?

- a) The methods used to transmit information
- b) The types of information that are communicated to meet specific needs
- c) The ultimate receiver of the information
- d) The carriers that disseminate information

Answer: b) The types of information that are communicated to meet specific needs

Explanation: "Information Needs" indicates the different types of information communicated to those who seek it for specific purposes.

Q70. How is "Recipient" characterized in the context of information classification?

- a) As the carrier of information
- b) As the source of the information
- c) As the ultimate receiver who may also generate or create information
- d) As the media through which information is communicated

Answer: c) As the ultimate receiver who may also generate or create information

Explanation: The "Recipient" is characterized as the person or entity who ultimately receives the information and may also create or generate information.

For More information:

The types of information with reference to the source, channel, media, information needs, and recipients:

Type of Information	Category	Description
By Source	Signals	Information communicated through signs, symbols, words, or numbers, e.g., mathematical formulae, statistical and factual data.
	Text matter	Information conveyed through larger amounts of text, e.g., articles, reports, books.
	Graphics	Information presented through visual means, e.g., photographs, pictures, graphs.
By Channel	Established carriers	Channels that disseminate information or knowledge, e.g., books, newspapers, websites.
By Media	Physical media	Media that physically carry messages or information, e.g., printed paper, digital screens.
By Information Needs	Types of information	Information communicated to meet specific needs of the recipients, e.g., educational materials, research data.
By Recipients	Ultimate receivers	Individuals or groups who receive and may generate or create new information, e.g., researchers,

		students, general public.
--	--	---------------------------

Q71. How is information classified when using the channel characteristic for grouping?

- a) By the type of information needs it addresses
- b) By the physical form of the information
- c) By the carrier or distributor of the information, such as literature and organizations
- d) By the method used to process the information

Answer: c) By the carrier or distributor of the information, such as literature and organizations

Explanation: Information can be classified based on the channels through which it is disseminated, including literature, organizations, institutions, and agencies.

Q72. Which type of literature channel involves new, original research or interpretations of known facts?

- a) Secondary Literature
- b) Tertiary Literature
- c) Primary Literature
- d) Literary Criticism

Answer: c) Primary Literature

Explanation: Primary literature includes new, original research papers, journal articles, conference papers, and official publications.

Q73. What distinguishes secondary literature from primary literature?

- a) Secondary literature is unorganized and unrelated
- b) Secondary literature includes new, original research
- c) Secondary literature is organized and arranged according to a definite plan
- d) Secondary literature includes personal files and diaries

Answer: c) Secondary literature is organized and arranged according to a definite plan

Explanation: Secondary literature is characterized by its organized arrangement and includes bibliographies, indexing, and abstracting journals.

Q74. Which type of literature channel contains digested knowledge and bibliographical keys to primary literature?

- a) Primary Literature
- b) Secondary Literature
- c) Tertiary Literature
- d) General Literature

Answer: c) Tertiary Literature

Explanation: Tertiary literature includes repositories of assimilated and digested knowledge such as reference books, dictionaries, encyclopedias, and directories.

Q75. What are some examples of primary literature channels?

- a) Reference books and encyclopedias
- b) Indexing and abstracting journals
- c) Research papers and journal articles
- d) Bibliographies and state-of-the-art reports

Answer: c) Research papers and journal articles

Explanation: Primary literature channels include new research papers, journal articles, and theses, which present original or new interpretations of known facts.

Q76. How are distribution agencies distinguished from information institutions in terms of their role?

- a) Distribution agencies provide information services, while information institutions sell information
- b) Information institutions sell information, while distribution agencies provide information services
- c) Distribution agencies are involved in information analysis, while information institutions handle information dissemination
- d) Information institutions are primarily commercial, while distribution agencies are non-commercial

Answer: b) Information institutions sell information, while distribution agencies provide information services

Explanation: Distribution agencies are primarily commercial entities focused on selling information, whereas information institutions provide information services to specific clientele.

Q77. Which media type involves person-to-person communication and can occur in various forms like one-to-one or one-to-many?

- a) Recorded Media
- b) Oral Media
- c) Electronic Media
- d) Visual Media

Answer: b) Oral Media

Explanation: Oral media involves direct voice communication between individuals or groups and can occur in various formats, including one-to-one, one-to-many, or many-to-many.

Q78. What distinguishes recorded media from other types of information media?

- a) Recorded media includes voice communication only
- b) Recorded media includes textual and non-textual formats such as paper-print, microforms, and audio-visual materials
- c) Recorded media is only available digitally
- d) Recorded media refers to live broadcasts and real-time communication

Answer: b) Recorded media includes textual and non-textual formats such as paper-print, microforms, and audio-visual materials

Explanation: Recorded media includes various formats such as paper-print, microforms, audio, visual, and audio-visual materials, differentiating it from oral and electronic/digital media.

Q79. How can information be grouped based on recipients?

- a) By media type and distribution channels
- b) By information needs and types
- c) By physical formats and delivery methods
- d) By individuals, groups, organizations, and institutions

Answer: d) By individuals, groups, organizations, and institutions

Explanation: When grouping information by recipients, it can be categorized based on who receives and uses the information, such as individuals, groups, organizations, and institutions.

Q80. What are the different information needs identified in the classification by information needs?

- a) Popular, Scientific, and Technical
- b) Know-why, Know-how, and Show-how
- c) Primary, Secondary, and Tertiary
- d) Oral, Recorded, and Digital

Answer: b) Know-why, Know-how, and Show-how

Explanation: Information needs are categorized into types such as Know-why (understanding reasons), Know-how (practical skills), and Show-how (demonstrative techniques).

Q81. What are the primary types of barriers to the communication of information flow as mentioned?

- a) Language, Media, and Economic Barriers
- b) Language, Seepage and Scatter, Socio-Economic Barriers
- c) Economic, Political, and Legal Barriers
- d) Language, Media, Socio-Economic, and Economic Barriers

Answer: b) Language, Seepage and Scatter, Socio-Economic Barriers

Explanation: The primary types of barriers to communication of information flow include language issues (such as jargon and presentation levels), problems related to seepage and scatter, and socio-economic barriers.

Q82. How can cultural and social differentiation impact communication problems?

- a) By causing issues in comprehension and perception
- b) By affecting the quality of language used
- c) By creating redundant data and errors in processing
- d) By leading to delays and misinformation

Answer: a) By causing issues in comprehension and perception

Explanation: Cultural and social differentiation can lead to problems in understanding and perceiving information, which can hinder effective communication.

Q83. What issues are associated with volume, mis-information, and delays in the context of publication?

- a) Overpopulation and pollution
- b) Errors in translation and processing
- c) Problems with postal transit and rehash
- d) Redundant data and delays in handling

Answer: d) Redundant data and delays in handling

Explanation: Volume, mis-information, and delays in publication can lead to redundant data and issues with the timely handling of information.

Q84. What are the economic, political, and legal barriers to information access and flow?

- a) Language barriers and socio-economic issues
- b) Cost, political instability, and regulatory issues
- c) Problems with media and communication channels
- d) Delays in publication and issues with document delivery

Answer: b) Cost, political instability, and regulatory issues

Explanation: Economic barriers include costs and overheads, while political and legal barriers encompass issues such as instability, foreign exchange regulations, and customs.

Q85. How have barriers to information access been mitigated ?

- a) Through improved language translation and presentation
- b) By increasing the availability of hard copies and internet access
- c) Through better media and communication channels
- d) By reducing socio-economic and cultural barriers

Answer: b) By increasing the availability of hard copies and internet access

Explanation: The ease of accessibility and availability of hard copies through the internet has helped in mitigating some barriers to information access.

Q86. What are the Five Laws of Library Science restated with a focus on information?

- a) Information is for Use, Every User his/her Information, Every Information its User, Save the Time of the User, Information Institution is a Growing Organism
- b) Information is for Use, Every User his/her Information, Every Information its User, Save the Time of the User, Information Institution is a Static Organism
- c) Information is for Use, Every Information its User, Save the Time of the User, Information Institution is a Growing Organism, Knowledge is Wealth
- d) Information is for Use, Every User his/her Information, Every Information its User, Save the Time of the User, Knowledge is Power

Answer: a) Information is for Use, Every User his/her Information, Every Information its User, Save the Time of the User, Information Institution is a Growing Organism

Explanation: The Five Laws restated with a focus on information are: Information is for Use, Every User his/her Information, Every Information its User, Save the Time of the User, and Information Institution is a Growing Organism.

Q87. What does the First Law emphasize about the value of information?

- a) Information is valuable only when it is actively used

- b) Information is valuable in its possession, regardless of its use
- c) Information is valuable only when it is in digital form
- d) Information is less valuable than financial resources

Answer: a) Information is valuable only when it is actively used

Explanation: The First Law stresses that information has value only in its use and is considered a vital economic resource essential for growth and development.

Q88. According to the Second Law, how should information services be oriented?

- a) Towards the preferences of information providers
- b) Towards users' needs and behaviors
- c) Towards the availability of resources
- d) Towards technological advancements

Answer: b) Towards users' needs and behaviors

Explanation: The Second Law suggests that information services should be oriented towards the needs of users, similar to customer-oriented services in business.

Q89. What is the primary principle communicated in the Third Law?

- a) Right Information to the Right User in the Right Time
- b) Efficient Use of Information Technology
- c) Save the Time of the User and Staff
- d) Continuous Research and Development in Information Handling

Answer: a) Right Information to the Right User in the Right Time

Explanation: The Third Law focuses on ensuring that the right information is delivered to the right user at the right time, emphasizing the importance of effective information transfer.

Q90. What does the Fourth Law emphasize about the resource 'Time'?

- a) Time is less important than the quality of information
- b) Time loss is acceptable if it improves the quality of service
- c) Timeliness and speed are crucial in providing quality information service
- d) Time should be focused on the development of technological tools

Answer: c) Timeliness and speed are crucial in providing quality information service

Explanation: The Fourth Law highlights the importance of timeliness and speed in delivering information services, and the role of Information Technology in improving service quality.

Q91. What does the Fifth Law address regarding institutional mechanisms for handling information?

- a) Institutions should remain static in their mechanisms
- b) Institutions should adapt to changing information environments
- c) Institutions should focus solely on traditional methods
- d) Institutions should avoid changes to maintain consistency

Answer: b) Institutions should adapt to changing information environments

Explanation: The Fifth Law refers to the need for institutions to adapt their mechanisms in response to the dynamic and ever-growing nature of knowledge and information environments.

Q92. According to B.E. Vickery's observations on information science, what is one of the aspects related to the behavior of people in the information transfer process?

- a) The role of information technology in enhancing storage capabilities
- b) The involvement of people as generators, sources, recipients, and users of information
- c) The impact of governmental regulations on information access

d) The development of new information storage technologies

Answer: b) The involvement of people as generators, sources, recipients, and users of information

Explanation: Vickery observed that people play multiple roles in the information transfer process, including being generators, sources, recipients, and users of information.

Q93. What aspect does Vickery highlight concerning the qualitative study of messages?

- a) The technological advancements in message transmission
- b) The size, growth rate, distribution, and pattern of production and use of messages
- c) The legal implications of message content
- d) The historical development of message formats

Answer: b) The size, growth rate, distribution, and pattern of production and use of messages

Explanation: Vickery emphasized the qualitative study of messages, focusing on their size, growth rate, distribution, and the patterns of production and use.

Q94. What does Vickery identify as a concern related to the semantic organization of messages?

- a) The development of advanced retrieval algorithms
- b) The organization of messages and channels to facilitate their identification by sources and recipients
- c) The costs associated with information storage
- d) The influence of political factors on message content

Answer: b) The organization of messages and channels to facilitate their identification by sources and recipients

Explanation: Vickery discussed the importance of the semantic organization of messages and channels to aid in their identification by both sources and recipients.

Q95. What problems does Vickery associate with information storage, analysis, and retrieval?

- a) The challenges in information formatting
- b) Issues particularly associated with the functions of information storage, analysis, and retrieval
- c) The limitations of digital storage solutions
- d) The impact of cultural differences on information access

Answer: b) Issues particularly associated with the functions of information storage, analysis, and retrieval

Explanation: Vickery highlighted problems specifically related to the functions of information storage, analysis, and retrieval.

Q96. What aspect of information systems does Vickery focus on regarding their performance?

- a) The cost-effectiveness of information systems
- b) The overall organization of information systems and their performance in transfer
- c) The user satisfaction with information system interfaces
- d) The environmental impact of information systems

Answer: b) The overall organization of information systems and their performance in transfer

Explanation: Vickery focused on how well information systems are organized and their effectiveness in transferring information.

Q97. According to Vickery, what social context is significant in the study of information transfer?

- a) The technological innovations impacting information storage
- b) The economics and politics surrounding information transfer
- c) The historical evolution of information systems
- d) The personal privacy issues related to information sharing

Answer: b) The economics and politics surrounding information transfer

Explanation: Vickery considered the social context of information transfer, particularly focusing on its economic and political aspects.

UNIT 4 KNOWLEDGE: DEFINITION, TYPES, NATURE, PROPERTIES AND SCOPE

Q98. What is one of the meanings of "knowledge" as defined by the Random House Dictionary (RHD)?

- a) A structured set of experimental results transmitted systematically
- b) Familiarity or conversance with a particular subject or branch of learning
- c) The body of truths or facts accumulated by mankind in the course of time
- d) An organized set of statements of fact or ideas

Answer: b) Familiarity or conversance with a particular subject or branch of learning

Explanation: The RHD defines knowledge as familiarity or conversance with a particular subject or branch of learning.

Q99. According to the Random House Dictionary (RHD), what is a word synonymous with 'knowledge'?

- a) Understanding
- b) Recognition
- c) Judgment
- d) Experience

Answer: a) Understanding

Explanation: Words synonymous with 'knowledge' in the RHD include Enlightenment, Information, Understanding, Discernment, Comprehension, Judgment, Wisdom, Lore, and Science.

Q100. How does the Greek root of the word 'knowledge' contribute to its meaning?

- a) It relates to the process of physically acquiring information
- b) It signifies mental processing and recognition of experience
- c) It emphasizes the importance of written documents
- d) It focuses on the historical development of knowledge

Answer: b) It signifies mental processing and recognition of experience

Explanation: The Greek root 'gnosis' and related terms like 'recognize' suggest that knowledge involves mentally processing and recognizing experience.

Q101. According to Daniel Bell, how is knowledge defined?

- a) A collection of raw data and information transmitted through various mediums
- b) An organized set of statements of fact or ideas, presenting reasoned judgments or experimental results
- c) A dynamic and evolving set of personal insights and values
- d) A body of symbolic products of society, including attitudes and values

Answer: b) An organized set of statements of fact or ideas, presenting reasoned judgments or experimental results

Explanation: Daniel Bell defines knowledge as an organized set of statements of fact or ideas that present reasoned judgments or experimental results.

Q102. How does Alvin Toffler's definition of knowledge differ from others?

- a) It focuses exclusively on scientific and experimental results
- b) It includes data, information, images, imagery, as well as attitudes, values, and symbolic products

- of society
- c) It emphasizes the fluid mix of framed experience and values in organizational settings
- d) It pertains primarily to the physical documentation of knowledge

Answer: b) It includes data, information, images, imagery, as well as attitudes, values, and symbolic products of society

Explanation: Alvin Toffler's definition encompasses not only data, information, and images but also attitudes, values, and other symbolic products of society.

Q103. How does Davenport define knowledge in the context of 'Knowledge Management'?

- a) As a static collection of historical documents and data
- b) As a fluid mix of framed experience, values, contextual information, and expert insight, applied in organizational routines
- c) As a systematic set of research and scholarly judgments
- d) As the body of truths accumulated by mankind over time

Answer: b) As a fluid mix of framed experience, values, contextual information, and expert insight, applied in organizational routines

Explanation: Davenport defines knowledge as a fluid mix of experience, values, contextual information, and expert insight, often embedded in organizational routines and practices.

Q104. How is knowledge broadly divided according to its availability and sharing?

- a) Organizational and Theoretical Knowledge
- b) Personal and Social Knowledge
- c) Tacit and Explicit Knowledge
- d) Explicit and Theoretical Knowledge

Answer: b) Personal and Social Knowledge

Explanation: Knowledge is broadly divided into personal knowledge (private knowledge) and social knowledge (public knowledge). Personal knowledge is individual and shared if communicated, while social knowledge is collectively possessed by society and is accessible to all members.

Q105. What does Ziman emphasize about the organization of public knowledge?

- a) The creation of new knowledge through experiments and investigations
- b) Self-organization through citation and reference linking
- c) Bibliographic organization through cataloging and indexing
- d) All of the above

Answer: d) All of the above

Explanation: Ziman emphasizes three aspects of organizing public knowledge: organization by creating, self-organization through citations, and bibliographic organization involving cataloging and indexing.

Q106. How does Michael Polanyi differentiate between tacit and explicit knowledge?

- a) Tacit knowledge is documented, while explicit knowledge is personal
- b) Tacit knowledge is subjective and hard to formalize, while explicit knowledge is objective and can be recorded
- c) Tacit knowledge is theoretical, while explicit knowledge is practical
- d) Tacit knowledge is easily communicated, while explicit knowledge is hard to describe

Answer: b) Tacit knowledge is subjective and hard to formalize, while explicit knowledge is objective and can be recorded

Explanation: According to Polanyi, tacit knowledge is personal, subjective, and difficult to formalize, whereas explicit knowledge is objective, theoretical, and can be recorded and communicated.

Q107. What does Polanyi suggest about the extent of tacit knowledge compared to explicit knowledge?

- a) Tacit knowledge is less significant than explicit knowledge
- b) Tacit knowledge can be easily shared and communicated
- c) We know more than we can tell or explain to others
- d) Tacit knowledge is irrelevant in Knowledge Management

Answer: c) We know more than we can tell or explain to others

Explanation: Polanyi suggests that tacit knowledge involves knowing more than one can verbally express or explain, making it a crucial yet difficult aspect of knowledge sharing.

Q108. According to Knowledge Management principles, why is tacit knowledge highly valued?

- a) It is easily documented and shared
- b) It represents the real strength of a company and needs to be extracted by various means
- c) It is less significant compared to explicit knowledge
- d) It is not as important as explicit knowledge in organizational settings

Answer: b) It represents the real strength of a company and needs to be extracted by various means

Explanation: In Knowledge Management, tacit knowledge is highly valued as it represents the real

strength of a company and needs to be extracted and utilized through various methods.

Q109. According to Karl Popper, what are the three worlds of knowledge?

- a) Physical World, Subjective World, and Objective World
- b) Physical World, Personal Knowledge, and Social Knowledge
- c) Physical World, Subjective Human Knowledge, and Objective Knowledge
- d) Physical World, Explicit Knowledge, and Tacit Knowledge

Answer: c) Physical World, Subjective Human Knowledge, and Objective Knowledge

Explanation: Karl Popper's ontological scheme identifies three worlds of knowledge: World 1 (the physical world), World 2 (subjective human knowledge), and World 3 (objective knowledge recorded in various forms).

Q110. How do the three worlds of knowledge interact according to Karl Popper's scheme?

- a) They are completely independent with no interaction.
- b) World 1 and World 3 interact through physical processes only.
- c) World 1 influences World 2 through human observation and experience, and World 3 is the product of World 2.
- d) World 2 and World 3 interact through technological advancements.

Answer: c) World 1 influences World 2 through human observation and experience, and World 3 is the product of World 2.

Explanation: According to Popper, World 1 (physical world) influences World 2 (subjective human knowledge) through human observation and experience, while World 3 (objective knowledge) results from World 2's subjective understandings.

Q111. What is the main challenge libraries and information centers face with the organization of knowledge?

- a) Maintaining physical library spaces
- b) Handling the short lifespan of personal knowledge
- c) Keeping up with the rapidly expanding dimensions of knowledge
- d) Reducing the cost of information products

Answer: c) Keeping up with the rapidly expanding dimensions of knowledge

Explanation: Libraries and information centers face the challenge of managing the rapid expansion of knowledge, which includes emerging disciplines and interdisciplinary nature, requiring continuous updates to their organizational tools.

Q112. What role do classification systems, subject heading lists, and information retrieval thesauri play in libraries and information centers?

- a) They are used to catalog physical spaces in libraries.
- b) They assist in the storage and retrieval of information by organizing collections.
- c) They primarily focus on the physical maintenance of documents.
- d) They help in the visual presentation of library materials.

Answer: b) They assist in the storage and retrieval of information by organizing collections.

Explanation: Classification systems, subject heading lists, and information retrieval thesauri are tools used to organize and retrieve information, ensuring that library collections are effectively managed and accessible.

Q113. What did Ranganathan contribute to the field of library science regarding the organization of knowledge?

- a) He focused on physical library space management.
- b) He developed a general theory of classification including laws, principles, and postulates for organizing knowledge.
- c) He introduced digital cataloging systems for libraries.
- d) He created new information retrieval software.

Answer: b) He developed a general theory of classification including laws, principles, and postulates for organizing knowledge.

Explanation: Ranganathan developed a comprehensive theory of classification that includes laws, normative principles, and postulates to handle past, present, and future knowledge, providing a framework for organizing various subjects.

Q114. What does Ranganathan's concept of "Dissection" involve?

- a) Creating a compound subject by layering facets on each other.
- b) Cutting a universe of entities into parts of coordinate status.
- c) Progressively decreasing the extension of a Basic Subject to expose new knowledge.
- d) Assembling two or more subjects into a related whole.

Answer: b) Cutting a universe of entities into parts of coordinate status.

Explanation: In Ranganathan's "Dissection," entities are divided into parts of equal status, forming an array of subjects, like cutting a slice of bread into strips.

Q115. How does "Lamination" differ from "Dissection" in Ranganathan's modes of formation of knowledge?

- a) Lamination involves cutting subjects into equal parts, while Dissection overlays facets.
- b) Lamination overlays facets to form a compound subject, while Dissection divides a subject into parts.
- c) Lamination involves assembling subjects, while Dissection connects isolate ideas.
- d) Lamination focuses on increasing depth, while Dissection decreases extension.

Answer: b) Lamination overlays facets to form a compound subject, while Dissection divides a subject into parts.

Explanation: "Lamination" is about creating a compound subject by overlaying facets, while "Dissection" involves dividing a universe of entities into parts of coordinate status.

Q116. What is the meaning of "Denudation" according to Ranganathan's modes of formation of knowledge?

- a) The construction of a compound subject by layering facets.
- b) The progressive decrease of the extension and increase of the intension of a Basic Subject.
- c) The assembly of two or more subjects into a related whole.
- d) The connection of two or more isolate ideas from the same universe of isolate ideas.

Answer: b) The progressive decrease of the extension and increase of the intension of a Basic Subject.

Explanation: "Denudation" involves decreasing the extension and increasing the depth or intension of a subject, exposing new areas of knowledge.

Q117. What does "Loose Assemblage" refer to in Ranganathan's framework?

- a) The connection of two or more isolate ideas.
- b) The creation of a compound subject by overlaying facets.
- c) The assembling together of two or more subjects.
- d) The progressive decrease of the extension of a subject.

Answer: c) The assembling together of two or more subjects.

Explanation: "Loose Assemblage" involves putting together two or more subjects to form a related whole, such as the general relation between Political Science and Economics.

Q118. What is the purpose of "Superimposition" in Ranganathan's modes of knowledge formation?

- a) To create a compound subject by layering facets.
- b) To assemble subjects into a related whole.
- c) To connect two or more isolate ideas belonging to the same universe.
- d) To progressively decrease the extension of a subject.

Answer: c) To connect two or more isolated ideas belonging to the same universe.

Explanation: "Superimposition" involves connecting two or more isolated ideas within the same universe of isolated ideas, especially when an entity fits multiple quasi-isolate ideas.

Q119. What is the difference between "Fission" and "Dissection" in Neelameghan's extension of Ranganathan's modes of knowledge formation?

- a) Fission involves external division of an entity, while Dissection is an internal process.
- b) Fission is an internal process of division, while Dissection involves external splitting of an entity.
- c) Fission creates compound subjects by layering facets, while Dissection connects isolate ideas.

- d) Fission and Dissection are synonymous and interchangeable terms.

Answer: b) Fission is an internal process of division, while Dissection involves external splitting of an entity.

Explanation: "Fission" refers to an internal process of dividing an entity without external intervention, whereas "Dissection" implies an external agency performing the division.

Q120. What does "Distillation of Kind 1" refer to in Neelameghan's framework?

- a) The emergence of a new subject based on interdisciplinary research.
- b) The creation of a new subject from the extensive study of specific ideas.
- c) The formation of a subject based on common observations and experiments across several fields.
- d) The assembly of related subjects into a cluster.

Answer: c) The formation of a subject based on common observations and experiments across several fields.

Explanation: "Distillation of Kind 1" involves forming a new subject from common observations, experiments, and experiences across multiple subjects.

Q121. How does "Distillation of Kind 2" differ from "Distillation of Kind 1"?

- a) Kind 1 is based on common observations across subjects, while Kind 2 arises from extensive study of specific ideas.
- b) Kind 1 is about forming new subjects from interdisciplinary research, while Kind 2 deals with subjects from clusters.
- c) Kind 1 involves creating subjects from new literature, while Kind 2 involves fusing disciplines.

d) Kind 1 and Kind 2 are identical in their approach to subject formation.

Answer: a) Kind 1 is based on common observations across subjects, while Kind 2 arises from extensive study of specific ideas.

Explanation: "Distillation of Kind 1" is based on common observations and experiments, whereas "Distillation of Kind 2" involves generating new subjects from in-depth studies of specific ideas.

Q122. What is meant by "Fusion" in Neelameghan's extension of knowledge formation?

- a) The division of a subject into smaller, equal parts.
- b) The creation of a new subject through interdisciplinary research and merging of ideas.
- c) The assembling of subjects into clusters based on core entities.
- d) The development of a subject by overlaying facets.

Answer: b) The creation of a new subject through interdisciplinary research and merging of ideas.

Explanation: "Fusion" involves the creation of new subjects through interdisciplinary research, leading to the emergence of new fields with their own principles and theories.

Q123. How are "Clusters" formed according to Neelameghan's framework?

- a) By connecting two or more isolate ideas within the same universe.
- b) By assembling subjects into a related whole based on core entities and diverse viewpoints.
- c) By forming a new subject from common observations and experiments.
- d) By progressively decreasing the extension of a subject to expose new knowledge.

Answer: b) By assembling subjects into a related whole based on core entities and diverse viewpoints.

Explanation: "Clusters" are formed by grouping subjects around a core entity with contributions from various specialists, creating a comprehensive field of study.

Q124. What does "Agglomeration of Kind 1" involve in Neelameghan's modes of knowledge formation?

- a) The connection of isolate ideas from different subjects.
- b) The treatment of multiple subjects integrally within the same document.
- c) The development of a new subject from extensive study and research.
- d) The creation of interdisciplinary fields through fusion.

Answer: b) The treatment of multiple subjects integrally within the same document.

Explanation: "Agglomeration of Kind 1" refers to the treatment of different subjects integrally or distinctly within a single document.

Q125. What is "Agglomeration of Kind 2" according to Neelameghan's framework?

- a) The formation of new subjects from interdisciplinary research.
- b) The grouping of subjects around a core entity with diverse viewpoints.
- c) The comprehensive treatment of subjects based on a classification scheme.
- d) The internal division of a subject into parts without external agency.

Answer: c) The comprehensive treatment of subjects based on a classification scheme.

Explanation: "Agglomeration of Kind 2" involves subjects that encompass other subjects according to a specific classification scheme.

More information:

Neela Meghan's extension of Ranganathan's methodology on the modes of formation of subjects:

Mode of Formation	Description	Examples
Fission	Division or splitting of a subject into parts internally, without outside intervention.	Previously called "Dissection".
Distillation of Kind 1	Formation of a new subject based on common observations or experiments across multiple subjects.	Management Science, Systemology, Metrology, Research Methodology.
Distillation of Kind 2	Creation of a subject due to extensive study and literary warrant for particular ideas or fields.	Statistical Calculus from Mathematics, Microbiology from Biology, International Relations from Political Science.
Fusion	Interdisciplinary research leading to new fields of study with their own principles and theories.	Astrophysics, Biomechanics, Psycholinguistics, Socio-cybernetics.

Clusters	Subject fields with a core entity, incorporating viewpoints from diverse disciplines.	Sinology, Tibetology, Gandhiana, Defense Sciences, Environmental Sciences, Ocean Sciences.
Agglomeration of Kind 1	Subjects treated integrally or distinctly within the same document.	Natural Sciences, Humanities.
Agglomeration of Kind 2	Subjects encompassing other subjects according to a particular classification scheme.	Psychology and Sociology in UDC.

Q126. How does Eugene Garfield's method of citation analysis contribute to structuring concepts?

- a) By establishing hierarchical relationships between concepts in a linear fashion.
- b) By identifying clusters of concepts through the analysis of citations, revealing interdisciplinary relationships.
- c) By mapping concepts in a multidimensional manner using graphic displays.
- d) By organizing concepts based on their chronological order of citation.

Answer: b) By identifying clusters of concepts through the analysis of citations, revealing interdisciplinary relationships.

Explanation: Garfield's citation analysis method identifies clusters of related concepts by analyzing

citations, which helps reveal interdisciplinary connections that go beyond traditional hierarchical relationships.

Q127. What is a key advantage of using citation analysis in structuring concepts?

- a) It provides a linear representation of concept relationships.
- b) It captures the multidimensional relationships between concepts effectively.
- c) It organizes concepts based on their historical citation frequency.
- d) It restricts the analysis to core journal articles only.

Answer: b) It captures the multidimensional relationships between concepts effectively.

Explanation: Citation analysis reveals multidimensional relationships between concepts by identifying clusters and their connections, which helps in understanding the broader context and interdisciplinary nature of subjects.

Q128. What problem does graphic display methods address in the presentation of concepts?

- a) The difficulty in identifying interdisciplinary connections between subjects.
- b) The restriction of linear displays that cannot fully represent multidimensional relationships.
- c) The lack of chronological order in representing concept relationships.
- d) The inability to capture citation frequencies of concepts.

Answer: b) The restriction of linear displays that cannot fully represent multidimensional relationships.

Explanation: Graphic display methods overcome the limitations of linear displays by representing concepts

in a multidimensional manner, which effectively illustrates their complex relationships.

Q129. How does a graphic display method improve the process of indexing and searching?

- a) By providing a linear list of concepts for easy reference.
- b) By mapping hierarchical and associative relationships in a multidimensional format.
- c) By focusing solely on core concepts without peripheral details.
- d) By using chronological order to arrange concepts.

Answer: b) By mapping hierarchical and associative relationships in a multidimensional format.

Explanation: Graphic displays enhance indexing and searching by visually mapping out multidimensional relationships among concepts, making it easier to understand and retrieve information.

Q130. What is the purpose of an atlas in the context of graphic displays of subject concepts?

- a) To provide a chronological timeline of concept development.
- b) To show relationships between broad and narrow concepts in specific subjects.
- c) To list concepts in a linear order based on their citation frequency.
- d) To restrict concept mapping to core articles only.

Answer: b) To show relationships between broad and narrow concepts in specific subjects.

Explanation: An atlas in graphic displays illustrates the relationships between major and minor concepts within specific subjects, akin to geographical atlases that show relationships between geographic divisions.

UNIT 5 INFORMATION COMMUNICATION PROCESS, MEDIA AND DIFFUSION

Q131. According to T.D. Wilson, what is more important about the definition of information?

- a) The exact wording of the definition.
- b) The various interpretations of the definition.
- c) The uses to which the definition of information is applied.
- d) The historical development of the concept of information.

Answer: c) The uses to which the definition of information is applied.

Explanation: T.D. Wilson emphasized that the value of the definition of information lies in its practical applications rather than the definition itself.

Q132. How is information characterized in the context of advanced societies?

- a) As a static element with minimal impact on daily life.
- b) As a dynamic and essential element for various societal functions.
- c) As a minor component in business and communication.
- d) As an abstract concept with limited practical applications.

Answer: b) As a dynamic and essential element for various societal functions.

Explanation: In advanced societies, information is crucial for business, industry, education, and other aspects of life, underscoring its importance and dynamic role.

Q133. What does Michael Buckland's approach to information as a "thing" emphasize?

- a) The intangibility and abstract nature of information.

- b) The physical embodiment of information in objects and systems.

- c) The role of information as a purely digital entity.

- d) The historical evolution of information concepts.

Answer: b) The physical embodiment of information in objects and systems.

Explanation: Buckland's approach highlights that information can be tangible and embodied in physical objects or information systems, contrasting with the traditional view of information as intangible.

Q134. What difficulty is associated with treating information as a resource?

- a) The tangible nature of information makes it easy to measure economically.

- b) Information is subject to physical laws like those of matter.

- c) The intangible nature of information complicates its economic valuation.

- d) Information is always easy to quantify and assess for impact.

Answer: c) The intangible nature of information complicates its economic valuation.

Explanation: The intangible nature of information makes it challenging to treat it as an economic resource and complicates its valuation and measurement.

Q135. What does the concept of "information-as-commodity" include?

- a) Only the creation and storage of information.

- b) The exchange of information, related activities, and its use.

- c) The physical properties of information objects.

- d) The theoretical aspects of information systems.

Answer: b) The exchange of information, related activities, and its use.

Explanation: The concept of information-as-commodity encompasses the entire process of information creation, exchange, and utilization, reflecting its broader economic and functional roles.

Q136. How do some researchers in information science view information?

- a) As a purely digital entity without physical representation.
- b) As a representation of or pointer to knowledge.
- c) As an abstract concept with no practical application.
- d) As a form of physical documentation only.

Answer: b) As a representation of or pointer to knowledge.

Explanation: Some researchers view information as a representation of or pointer to knowledge, illustrating how it connects to broader concepts of knowledge.

Q137. What is an example of information representation traditionally based on printed documents?

- a) Databases of citations to scientific documents.
- b) Electronic mail communications.
- c) Digital video and audio recordings.
- d) Social media posts and interactions.

Answer: a) Databases of citations to scientific documents.

Explanation: Card catalogues and citation databases traditionally represent information based on printed documents and their connections.

Q138. What do researchers who view information as part of the communication process focus on?

- a) The physical properties of information systems.
- b) The objective data contained in documents.

c) The human behavior and sense-making processes in communication.

d) The statistical analysis of data and information.

Answer: c) The human behavior and sense-making processes in communication.

Explanation: This perspective emphasizes understanding how people interpret and use data rather than focusing solely on the data itself.

Q139. What is the Latin origin of the word "Communication"?

- a) Communis, meaning 'sharing.'
- b) Communico, meaning 'to connect.'
- c) Communitas, meaning 'community.'
- d) Communare, meaning 'to communicate.'

Answer: a) Communis, meaning 'sharing.'

Explanation: The term "communication" derives from the Latin word "Communis," which means 'sharing.'

Q140. How has communication evolved over time?

- a) From body language to digital communication only.
- b) From spoken word to body language and digital communication.
- c) From sign language to written communication, then to electronic and mass media.
- d) From print media to spoken word and digital communication.

Answer: c) From sign language to written communication, then to electronic and mass media.

Explanation: Communication has evolved from early sign language and body language to written forms and later to electronic and mass media methods.

Q141. How does the Oxford Dictionary define communication?

- a) The act of transferring physical goods.
- b) The exchange of ideas and knowledge through speech, writing, or signs.
- c) The process of physical transportation of persons and goods.
- d) The act of transmitting electronic messages only.

Answer: b) The exchange of ideas and knowledge through speech, writing, or signs.

Explanation: The Oxford Dictionary defines communication as the imparting, conveying, or exchanging of ideas and knowledge through speech, writing, or signs.

Q142. What is the Columbia Encyclopedia's definition of communication?

- a) The transfer of physical goods and persons.
- b) The transmission of thoughts and messages contrasted with transportation of goods.
- c) The process of creating written documents.
- d) The act of verbal communication only.

Answer: b) The transmission of thoughts and messages contrasted with transportation of goods.

Explanation: The Columbia Encyclopedia defines communication as the transfer of thoughts and messages, distinct from the transportation of goods and persons.

Q143. Which of the following is NOT mentioned as a form of communication in the definitions?

- a) Oral communication
- b) Visual images or icons
- c) Transportation of goods
- d) Written text in any language

Answer: c) Transportation of goods

Explanation: Communication definitions focus on transmitting ideas through various means like oral,

visual, and written forms, not the transportation of goods.

Q144. According to the definitions provided, what must occur before information can be communicated?

- a) It must be physically transported.
- b) It must be mentally conceived, generated, or formed by an individual.
- c) It must be digitized.
- d) It must be translated into multiple languages.

Answer: b) It must be mentally conceived, generated, or formed by an individual.

Explanation: The definitions imply that information must first be mentally conceived or generated before it can be communicated.

Q145. What are the basic channels of communication?

- a) Oral and digital communication.
- b) Written and visual communication.
- c) Oral and written/documentary communication.
- d) Non-verbal and formal communication.

Answer: c) Oral and written/documentary communication.

Explanation: The basic channels of communication mentioned are oral and written/documentary communication.

More information

The types of non-verbal communication:

Type of Non-Verbal Communication	Description	Examples
Paralinguistics	Variations in speech patterns, including	Variations in tone,

	loudness, pitch, and hesitation that complement verbal communication.	volume, and speech rate.
Kinesics	Communication through facial expressions, eye movements, and gestures.	Smiling, winking, nodding, hand gestures.
Haptics	Use of touch to convey messages or emotions.	Shaking hands, holding hands, patting.
Proxemics	Use of interpersonal space and physical distance between people to convey meaning.	Personal space, social distancing.
Dress and Appearance	Communication through clothing, hairstyles, make-up, and accessories.	Professional attire, casual dress, jewelry.
Chronemics	Communication through the use and perception of time.	Punctuality, time management, waiting time.
Iconics	Interpretation of symbols and designs as a form of communication.	International traffic signs, logos.

Q146. What is non-vocal communication?

- a) Communication that involves spoken words and vocal sounds.
- b) Communication that uses signs, signals, and symbols.
- c) Communication that involves the use of written text only.
- d) Communication that occurs through electronic devices.

Answer: b) Communication that uses signs, signals, and symbols.

Explanation: Non-vocal communication involves using signs, signals, and symbols, as opposed to vocal communication that uses the human vocal chords.

Q147. What is the key difference between signs and signals in non-vocal communication?

- a) Signs are explicit, and signals are implicit.
- b) Signals contain intrinsic meaning, while signs are used to convey extrinsic meanings.
- c) Signs carry explicit meanings, and signals carry implicit meanings.
- d) Signals and signs are the same and cannot be differentiated.

Answer: c) Signs carry explicit meanings, and signals carry implicit meanings.

Explanation: Signs usually carry meanings that are intrinsic, while signals are devices that convey explicit meanings, often used in specific systems like rail transport.

Q148. What are the components of non-vocal communication?

- a) Written text and digital messages.
- b) Voice modulation and pronunciation.
- c) Signs, signals, and symbols.
- d) Facial expressions and vocal tones.

Answer: c) Signs, signals, and symbols.

Explanation: The components of non-vocal communication include signs, signals, and symbols, which are used to convey meaning without spoken words.

Q149. Which type of communication uses the human vocal cords?

- a) Non-verbal communication
- b) non-vocal communication
- c) Vocal communication
- d) Written communication

Answer: c) Vocal communication

Explanation: Vocal communication refers to any form of communication that uses the human vocal cords, such as speaking, shouting, or producing sound effects.

Q150. What does non-verbal communication include?

- a) Written text and spoken words.
- b) Gestures, facial expressions, and vocalizations.
- c) Digital messages and emails.
- d) Formal written documents and reports.

Answer: b) Gestures, facial expressions, and vocalizations.

Explanation: Non-verbal communication encompasses actions like gestures, facial expressions, and vocalizations, rather than the use of words alone.

Q151. Which of the following is NOT one of the seven types of non-verbal communication?

- a) Para linguistics
- b) Kinesics
- c) Chronemics
- d) Formal writing

Answer: d) Formal writing

Explanation: The seven types of non-verbal communication include para linguistics, kinesics, haptics, proxemics, dress and appearance, chronemics, and iconic. Formal writing is not considered a type of non-verbal communication.

Q152. What does proxemics refer to in non-verbal communication?

- a) The use of interpersonal space and distance between individuals.
- b) The interpretation of symbols found in objects.
- c) The use of facial expressions and eye movements.
- d) The study of variations in speech patterns.

Answer: a) The use of interpersonal space and distance between individuals.

Explanation: Proxemics deals with how the physical distance between people communicates different meanings and is a type of non-verbal communication.

Q153. What is intrapersonal communication?

- a) Communication between two or more persons.
- b) Communication within one person, such as talking to oneself.
- c) Communication involving a group of people.
- d) Communication through media to a large audience.

Answer: b) Communication within one person, such as talking to oneself.

Explanation: Intrapersonal communication occurs within a single person, involving self-talk, thoughts, and perceptions.

Q154. What type of communication involves face-to-face interaction or communication at a distance between two or more people?

- a) Intrapersonal communication
- b) Group communication

- c) Interpersonal communication
- d) Mass communication

Answer: c) Interpersonal communication

Explanation: Interpersonal communication takes place between two or more individuals and can be face-to-face or mediated by tools like phones or letters.

Q155. What is group communication?

- a) Communication between one person and a large audience.
- b) Communication involving multiple people with shifts between the speaker and listener roles.
- c) Communication within a single individual.
- d) Communication through mass media to a broad audience.

Answer: b) Communication involving multiple people with shifts between the speaker and listener roles.

Explanation: Group communication involves interactions among many people, where roles of speaker and listener can alternate.

Q156. Which type of communication involves transmitting messages through media to a large audience?

- a) Interpersonal communication
- b) Group communication
- c) Mass communication
- d) Intrapersonal communication

Answer: c) Mass communication

Explanation: Mass communication involves transmitting messages to a large audience through media such as print, broadcasting, or electronic media.

Q157. What are the three basic elements required in the communication process?

- a) Sender, message, and medium
- b) Source, message, and destination
- c) Speaker, listener, and feedback
- d) Encoder, decoder, and channel

Answer: b) Source, message, and destination

Explanation: The basic elements of the communication process include the source (sender), the message, and the destination (receiver).

Q158. What role does encoding play in the communication process?

- a) It involves the physical transmission of the message.
- b) It is the process of interpreting the received message.
- c) It is the process of transforming the message into a form suitable for transmission.
- d) It is the feedback received from the recipient.

Answer: c) It is the process of transforming the message into a form suitable for transmission.

Explanation: Encoding involves converting the message into a format that can be communicated effectively, such as words, symbols, or gestures.

Q159. What is the importance of establishing commonness between the sender and the receiver in the communication process?

- a) To ensure the message is delivered quickly.
- b) To make sure the message is transmitted over the right medium.
- c) To ensure that both the sender and receiver have similar experiences and understanding.
- d) To avoid any form of feedback or interpretation issues.

Answer: c) To ensure that both the sender and receiver have similar experiences and understanding.

Explanation: Establishing commonness helps ensure that the sender and receiver share similar experiences and understanding, facilitating effective communication.

Q160. What additional steps are needed in practice to ensure effective communication?

- a) Only encoding the message.
- b) Only decoding the message.
- c) Encoding and decoding the message.
- d) Only selecting the appropriate medium.

Answer: c) Encoding and decoding the message.

Explanation: Effective communication requires both encoding the message for transmission and decoding it at the receiver's end to ensure understanding.

Q161. What is the communication cycle?

- a) A one-time transmission of messages from source to destination.
- b) A continuous process where individuals function as transmitters and receivers alternately.
- c) A method involving only the sender and receiver without feedback.
- d) A process where messages are only received and not sent.

Answer: b) A continuous process where individuals function as transmitters and receivers alternately.

Explanation: The communication cycle is an interactive, multidimensional process where individuals alternate between being the encoder, interpreter, and decoder of information.

Q162. What are the basic elements of the communication process?

- a) Encoder, message, channel, feedback, receiver
- b) Information source, encoder, message, communication channel, noise, decoder, receiver

- c) Source, medium, noise, feedback, destination
- d) Sender, message, feedback, receiver, noise

Answer: b) Information source, encoder, message, communication channel, noise, decoder, receiver

Explanation: The communication process includes the source, encoder, message, communication channel, noise, decoder, and receiver.

Q163. What role does the encoder play in the communication process?

- a) Receives and interprets the message.
- b) Transmits the message through a channel.
- c) Transforms ideas and information into a code for transmission.
- d) Delivers feedback to the source.

Answer: c) Transforms ideas and information into a code for transmission.

Explanation: The encoder's role is to convert ideas and information into a coded form suitable for transmission.

Q164. What is a communication channel?

- a) A medium through which messages are transmitted.
- b) A process for decoding the message.
- c) A device that encodes the message.
- d) The destination of the message.

Answer: a) A medium through which messages are transmitted.

Explanation: A communication channel is the medium used to convey the message from the sender to the receiver.

Q165. What are the two broad classifications of communication media?

- a) Conventional and digital
- b) Electronic and print
- c) Conventional and non-conventional
- d) Visual and auditory

Answer: c) Conventional and non-conventional

Explanation: Communication media can be classified into conventional media (e.g., print media) and non-conventional media (e.g., electronic media).

Q166. Which of the following is NOT a form of print media?

- a) Books
- b) Television
- c) Newspapers
- d) Magazines

Answer: b) Television

Explanation: Television is an example of electronic media, not print media.

Q167. What is the main function of print media?

- a) Providing real-time news updates
- b) Transmitting messages over long distances without physical links
- c) Providing information and sometimes entertainment through physical publications
- d) Sending electronic messages or documents

Answer: c) Providing information and sometimes entertainment through physical publications

Explanation: Print media such as books, newspapers, and magazines provide information and entertainment through physical publications.

Q168. How does broadcasting differ from print media?

- a) Broadcasting involves physical publications, while print media uses electronic signals.

- b) Broadcasting transmits messages using energy waves, while print media involves physical media.
- c) Broadcasting is not used for mass communication, while print media is.
- d) Broadcasting provides information through printed text, while print media uses electronic media.

Answer: b) Broadcasting transmits messages using energy waves, while print media involves physical media.

Explanation: Broadcasting transmits messages via energy waves (radio, TV), whereas print media involves physical forms like newspapers and magazines.

Q169. What is the main advantage of electronic mail (e-mail) over traditional postal mail?

- a) E-mail is more expensive than traditional mail.
- b) E-mail can only be sent via physical mail services.
- c) E-mail overcomes delays associated with traditional postal services and is more economical.
- d) E-mail does not provide any advantages over traditional mail.

Answer: c) E-mail overcomes delays associated with traditional postal services and is more economical.

Explanation: E-mail provides faster and more cost-effective communication compared to traditional postal mail.

Q170. What is the key difference between videotext and teletext?

- a) Videotext is delivered over the air, while teletext is delivered by wire.
- b) Teletext allows for real-time information requests, while videotext is pre-transmitted.
- c) Videotext is delivered by wire, while teletext is

delivered over the air.

d) Teletext is a newer technology compared to videotext.

Answer: c) Videotext is delivered by wire, while teletext is delivered over the air.

Explanation: Videotext is delivered via telephone or cable lines, while teletext is broadcast over the air and viewed on television screens.

Q171. What is the primary focus of Shannon and Weaver's model of communication?

- a) Two-way interaction and feedback
- b) Encoding, transmission, and decoding of messages
- c) Complex relationships among humans
- d) Receiver's interpretation of the message

Answer: b) Encoding, transmission, and decoding of messages

Explanation: Shannon and Weaver's model primarily focuses on the process of encoding, transmitting, and decoding messages, along with the impact of noise on communication.

Q172. What is the main criticism of Shannon and Weaver's model?

- a) It is too complex and difficult to understand.
- b) It does not account for feedback or two-way communication.
- c) It overemphasizes the role of the receiver.
- d) It lacks consideration of noise in the communication process.

Answer: b) It does not account for feedback or two-way communication.

Explanation: The main criticism is that Shannon and Weaver's model is linear and does not account for feedback or the interactive nature of two-way communication.

Q173. How can Shannon and Weaver's model be adapted to include feedback?

- a) By adding an additional feedback channel with its own encoder, decoder, and noise sources
- b) By focusing only on the noise source
- c) By removing the receiver from the model
- d) By simplifying the model to exclude encoding

Answer: a) By adding an additional feedback channel with its own encoder, decoder, and noise sources

Explanation: To convert Shannon and Weaver's model into a two-way communication model, a feedback channel with its own encoding, decoding, and noise management is added.

Q174. According to Shannon and Weaver's model, what is 'noise'?

- a) An intentional message from the sender
- b) Unwanted interference that affects the clarity of the message
- c) The feedback provided by the receiver
- d) The source of the original message

Answer: b) Unwanted interference that affects the clarity of the message

Explanation: In Shannon and Weaver's model, 'noise' refers to various types of unwanted interference that can distort or affect the clarity of the transmitted message.

Q175. Which of the following best describes the nature of Shannon and Weaver's model?

- a) Interactive and multidimensional
- b) Linear and one-way
- c) Nonlinear and complex
- d) Circular and feedback-oriented

Answer: b) Linear and one-way

Explanation: Shannon and Weaver's model is characterized by its linear, one-way approach to communication, focusing on the transmission of messages from source to receiver.

Q176. What significant change is suggested to make Shannon and Weaver's model more applicable to human communication?

- a) Add more noise sources
- b) Introduce multiple encoders and decoders
- c) Incorporate a feedback channel
- d) Remove the concept of noise

Answer: c) Incorporate a feedback channel

Explanation: Adding a feedback channel to Shannon and Weaver's model is suggested to make it more applicable to human communication by allowing for interactive, two-way exchanges.

Q177. What aspect of Shannon and Weaver's model is reflected in the practices of traditional broadcasters?

- a) Focus on receiving feedback
- b) Emphasis on message production and transmission
- c) Integration of interactive elements
- d) Consideration of noise reduction

Answer: b) Emphasis on message production and transmission

Explanation: Traditional broadcasters focused primarily on the production and transmission of messages, aligning with Shannon and Weaver's model's emphasis on one-way communication.

Q178. Which scholars have advanced models to address the limitations of Shannon and Weaver's model?

- a) Lasswell and Gerbner
- b) Schramm and Kincaid
- c) Shannon and Weaver
- d) Berlo and Barnlund

Answer: b) Schramm and Kincaid

Explanation: Scholars like Schramm and Kincaid have developed models intended to address the limitations of Shannon and Weaver's linear model by incorporating more complex, interactive elements.

Q179. What is the primary value of Lasswell's model of communication?

- a) It addresses the feedback mechanism in communication.
- b) It provides a structuring device for analyzing communication processes.
- c) It focuses on the technical aspects of message transmission.
- d) It emphasizes the interactive nature of communication.

Answer: b) It provides a structuring device for analyzing communication processes.

Explanation: Lasswell's model is valued for its ability to break down the communication process into distinct components for analysis.

Q180. What question does Lasswell's model address?

- a) How is noise managed in the communication process?
- b) How does feedback affect the communication process?
- c) Who says what in which channel to whom with what effect?
- d) What are the roles of encoders and decoders in communication?

Answer: c) Who says what in which channel to whom with what effect?

Explanation: Lasswell's model is summarized by this question, focusing on the various components and effects of communication.

Q181. In the context of libraries, who does Lasswell's model identify as the 'Who'?

- a) Library users
- b) Library materials
- c) Authors, publishers, research bodies
- d) Library staff

Answer: c) Authors, publishers, research bodies

Explanation: In the context of libraries, 'Who' refers to those involved in creating or providing library materials, such as authors and publishers.

Q182. What does the 'What' in Lasswell's model refer to in a library setting?

- a) The physical library space
- b) The symbolic contents of knowledge and use of language notations
- c) The library's technological resources
- d) The feedback from library users

Answer: b) The symbolic contents of knowledge and use of language notations

Explanation: In a library setting, 'What' refers to the content and symbols used in library materials and information.

Q183. According to Lasswell's model, which of the following represents the 'Channel'?

- a) Library users
- b) Books, journals, reports
- c) Knowledge addition to individuals
- d) Authors and publishers

Answer: b) Books, journals, reports

Explanation: The 'Channel' in Lasswell's model refers to the medium through which messages are communicated, such as books and journals in a library setting.

Q184. What does the 'Whom' in Lasswell's model refer to in a library context?

- a) Library staff
- b) The content of library materials
- c) Library users or members of society
- d) The feedback received from users

Answer: c) Library users or members of society

Explanation: In a library context, 'Whom' refers to the individuals who receive and use the information provided by the library.

Q185. What is the main focus of George Gerbner's model of communication?

- a) The linear transmission of messages
- b) The influence of noise on communication
- c) The connection between the communication situation and participants' perceptions and responses
- d) The role of feedback in communication

Answer: c) The connection between the communication situation and participants' perceptions and responses

Explanation: George Gerbner's model focuses on linking the communication situation with participants' perceptions and responses, incorporating both machine and human processes.

Q186. When was George Gerbner's model of communication developed?

- a) 1948
- b) 1956

- c) 1960
- d) 1970

Answer: b) 1956

Explanation: George Gerbner developed his model of communication in 1956, which was conceptually different from earlier models.

Q187. How does Gerbner's model differ from earlier communication models like Shannon and Weaver's or Lasswell's?

- a) It emphasizes the technical aspects of message transmission.
- b) It focuses on the interactive nature and participant responses in the communication process.
- c) It addresses the role of noise in communication.
- d) It simplifies the communication process into a linear model.

Answer: b) It focuses on the interactive nature and participant responses in the communication process.

Explanation: Gerbner's model differs by emphasizing the interaction between participants and their responses to the communication situation, rather than just the linear transmission of messages.

Q188. What is the primary focus of Schramm's Model I?

- a) The interaction between participants in communication.
- b) The encoding, transmission, and decoding of signals.
- c) The shared field of experience between source and destination.
- d) The continuous feedback loop in communication.

Answer: b) The encoding, transmission, and decoding of signals.

Explanation: Schramm's Model I focuses on the linear process of encoding, transmitting, and decoding signals, which is like Shannon-Weaver's model.

Q189. How does Schramm's Model II differ from Schramm's Model I?

- a) It introduces the concept of shared fields of experience.
- b) It emphasizes the feedback mechanism in communication.
- c) It highlights the role of noise in communication.
- d) It deals with the continuous loop of information exchange.

Answer: a) It introduces the concept of shared fields of experience.

Explanation: Schramm's Model II emphasizes that effective communication occurs only when the source and destination share a common field of experience.

Q190. What is a key feature of Schramm's Model III?

- a) It focuses on a linear process of communication.
- b) It includes the feedback and continuous loop of shared information.
- c) It deals with the role of noise in communication.
- d) It highlights the encoding and decoding of signals.

Answer: b) It includes the feedback and continuous loop of shared information.

Explanation: Schramm's Model III incorporates the feedback mechanism and the continuous exchange of information between the parties involved in communication.

Q191. What does Schramm's Model I primarily represent?

- a) The feedback loop in communication.
- b) The process of encoding and decoding signals.
- c) The interaction between participants.
- d) The role of shared experiences.

Answer: b) The process of encoding and decoding signals.

Explanation: Schramm's Model I represent the basic process of communication involving encoding, signal transmission, and decoding.

Q192. According to Schramm's Model II, what is essential for communication to occur effectively?

- a) The presence of a feedback channel.
- b) The reduction of noise in the communication process.
- c) A shared field of experience between the source and destination.
- d) The continuous loop of information exchange.

Answer: c) A shared field of experience between the source and destination.

Explanation: Schramm's Model II emphasizes that communication is effective only when there is a shared field of experience between the communicators.

Q193. Which of Schramm's models incorporates feedback and a continuous loop of communication?

- a) Model I
- b) Model II
- c) Model III
- d) Model IV

Answer: c) Model III

Explanation: Schramm's Model III includes feedback and the continuous exchange of information between communicators.

Q194. What does the term "diffusion" refer to in the context of information?

- a) The process of encoding and decoding information.
- b) The spread of information from person to person through time and space.
- c) The feedback received from communication.
- d) The reduction of noise in communication.

Answer: b) The spread of information from person to person through time and space.

Explanation: Diffusion refers to the process by which information, ideas, and innovations spread across individuals and societies.

Q195. What is a primary area of focus in diffusion research?

- a) The technical aspects of signal transmission.
- b) The impact of noise on communication.
- c) The role of social networks and psychological variables in spreading innovations.
- d) The linear flow of information.

Answer: c) The role of social networks and psychological variables in spreading innovations.

Explanation: Diffusion research focuses on how social networks, information flow, and psychological factors affect the spread of innovations and ideas.

Q196. What distinguishes contemporary diffusion studies from earlier ones?

- a) They focus solely on beneficial innovations.
- b) They include both harmful and beneficial effects of innovations.
- c) They are concerned only with agricultural techniques.
- d) They emphasize the linear transmission of information.

Answer: b) They include both harmful and beneficial effects of innovations.

Explanation: Contemporary diffusion studies consider both positive and negative effects of innovations, expanding beyond earlier studies that primarily focused on beneficial changes.

Q197. What does the "neighbourhood effect" in spatial diffusion refer to?

- a) The tendency of innovations to spread more rapidly in larger urban areas.
- b) The effect of distance on the rate of adoption and diffusion of innovations.
- c) The hierarchical influence on the diffusion of ideas.
- d) The increase in adoption rates due to higher population density.

Answer: b) The effect of distance on the rate of adoption and diffusion of innovations.

Explanation: The neighbourhood effect refers to the observation that the rate of diffusion decreases with distance from the source of innovation, as personal communication and adoption costs are affected by proximity.

Q198. How does the "hierarchical or cascade effect" influence the adoption of innovations?

- a) Large urban areas adopt innovations before smaller urban places.
- b) Adoption rates are the same regardless of the size of the area.
- c) Smaller areas adopt innovations faster due to lower costs.
- d) All areas adopt innovations at the same rate due to equal population density.

Answer: a) Large urban areas adopt innovations before smaller urban places.

Explanation: The hierarchical or cascade effect describes how larger, more affluent urban areas tend to

adopt innovations before smaller or less wealthy areas due to greater resources and information density.

Q199. What is the primary distinction between the neighbourhood effect and the hierarchical effect in diffusion?

- a) The neighbourhood effect relates to distance, while the hierarchical effect relates to city size and resources.
- b) The neighbourhood effect relates to city size, while the hierarchical effect relates to distance.
- c) The neighbourhood effect describes the speed of diffusion in rural areas, while the hierarchical effect describes it in urban areas.
- d) The neighbourhood effect affects complex innovations, while the hierarchical effect affects simple innovations.

Answer: a) The neighbourhood effect relates to distance, while the hierarchical effect relates to city size and resources.

Explanation: The neighbourhood effect involves the impact of distance on the diffusion rate, while the hierarchical effect involves the adoption patterns based on the size and resources of urban areas.

Q200. According to Marilyn Brown, which factor affects the rate of diffusion by considering whether an innovation is superior to existing practices?

- a) Compatibility
- b) Impact on social relations
- c) Complexity
- d) Relative Advantage

Answer: d) Relative Advantage

Explanation: Relative advantage refers to the degree to which an innovation is perceived as better than the current practices, which influences its rate of diffusion.

Q201. What does the factor of "compatibility" refer to in the diffusion of innovations?

- a) The ease with which an innovation can be communicated to potential adopters.
- b) The extent to which an innovation requires changes to existing sociocultural values and practices.
- c) The visibility of the innovation and its impact on social relations.
- d) The complexity and understanding required to use the innovation.

Answer: b) The extent to which an innovation requires changes to existing sociocultural values and practices.

Explanation: Compatibility refers to how well an innovation fits with existing values, behaviors, and practices, which affects its rate of adoption.

Q202. How does "complexity" influence the diffusion of innovations?

- a) It facilitates faster adoption as it makes the innovation more understandable.
- b) It inhibits adoption by making the innovation harder to understand and use.
- c) It has no effect on the rate of adoption.
- d) It increases the visibility and communication of the innovation.

Answer: b) It inhibits adoption by making the innovation harder to understand and use.

Explanation: Complexity affects the rate of diffusion by making it harder for potential adopters to understand and use the innovation, which can slow down adoption.

Q203. What role does "communicability" play in the diffusion of information?

- a) It affects how visible an innovation is to potential adopters.

- b) It determines how easily information about an innovation can be communicated to potential adopters.
- c) It measures the relative advantage of an innovation compared to existing practices.
- d) It influences the social impact of the innovation.

Answer: b) It determines how easily information about an innovation can be communicated to potential adopters.

Explanation: Communicability refers to the ease with which information about an innovation can be shared and understood, which affects its diffusion.

Q204. What is meant by "observability" in the context of information diffusion?

- a) The extent to which an innovation is visible and noticeable to others.
- b) The ease with which information about an innovation can be communicated.
- c) The complexity of the innovation and its impact on adoption.
- d) The relative advantage of the innovation over existing practices.

Answer: a) The extent to which an innovation is visible and noticeable to others.

Explanation: Observability refers to how visible the use of an innovation is, which facilitates the dissemination of knowledge about it and can influence its rate of adoption.

Q205. What does the "interorganisational diffusion" process focus on?

- a) The adoption and adaptation of innovations within single industries.
- b) The international differences in the speed of innovation diffusion.
- c) The study of individual innovations diffusing through multiple industries.
- d) The analysis of diffusion within the general population.

Answer: a) The adoption and adaptation of innovations within single industries.

Explanation: Interorganizational diffusion studies the adoption and adaptation processes of innovations within specific types of industries and explains differences in adoption times between institutions.

Q206. According to Rogers' model, what shape does the adoption of an innovation typically follow over time?

- a) A linear curve.
- b) An exponential curve.
- c) An S-shaped curve.
- d) A circular curve.

Answer: c) An S-shaped curve.

Explanation: Rogers' model suggests that the adoption of innovations typically follows an S-shaped curve when plotted over time, indicating gradual adoption followed by rapid acceptance and then stabilization.

Q207. What are the two main forces identified by the Bass model (1968) in the diffusion process?

- a) Mass media communication and word of mouth communication.
- b) Marketing strategies and social networks.
- c) Governmental policies and industry regulations.
- d) Technological advancements and economic factors.

Answer: a) Mass media communication and word of mouth communication.

Explanation: The Bass model identifies mass media and word of mouth as the two primary forces driving the diffusion of innovations.

Q208. Which of the following is NOT one of the four important assumptions mentioned by

Mahajan, et al. regarding the diffusion of innovations?

- a) Diffusion of an innovation is independent of all other innovations.
- b) Nature of an innovation changes over time.
- c) Diffusion of an innovation is not influenced by marketing strategies.
- d) There is only one single adoption by each adoption unit.

Answer: b) Nature of an innovation changes over time.

Explanation: Mahajan, et al. highlighted that the nature of an innovation does not change over time as one of their key assumptions.

Q209. What is the primary focus of the Epidemic Model in diffusion studies?

- a) The spread of diseases as an analogy for the spread of innovations.
- b) Economic factors influencing the adoption of innovations.
- c) The stock levels of innovations within organizations.
- d) The communication strategies affecting innovation adoption.

Answer: a) The spread of diseases as an analogy for the spread of innovations.

Explanation: The Epidemic Model uses the analogy of disease spread to describe how innovations diffuse, employing mathematical theories of epidemics.

Q210. What does the Economic Theory Model suggest about the adoption of innovations among firms?

- a) All firms adopt innovations at the same rate regardless of size.
- b) Larger firms are more likely to adopt innovations faster than smaller firms.

- c) The likelihood of adoption is independent of the firm's size.
- d) The adoption rate is the same across different industries.

Answer: b) Larger firms are more likely to adopt innovations faster than smaller firms.

Explanation: The Economic Theory Model suggests that larger firms often adopt innovations more quickly due to their greater resources and ability to absorb new technologies.

Q211. What does the Stock Adjustment Model primarily study?

- a) The investment behavior and stock levels of innovations.
- b) The spread of innovations across different industries.
- c) The communication strategies influencing adoption rates.
- d) The international differences in innovation adoption.

Answer: a) The investment behavior and stock levels of innovations.

Explanation: The Stock Adjustment Model is used to analyze investment behavior and stock levels, particularly focusing on equilibrium stocks over time.

Q212. How does the "Industrial Engel Curve" relate to the diffusion of innovations?

- a) It measures the relationship between firm size and the likelihood of adopting new innovations.
- b) It analyzes the impact of marketing strategies on innovation adoption.
- c) It describes the influence of mass media on diffusion rates.
- d) It evaluates the speed of diffusion in relation to geographic distance.

Answer: a) It measures the relationship between firm size and the likelihood of adopting new innovations.

Explanation: The Industrial Engel Curve relates the probability of a firm adopting new innovations to its size, showing that larger firms tend to adopt innovations faster.

Q213. What is the fundamental concept of the Vintage Model as proposed by Salter in 1960?

- a) New knowledge is embodied in new products and drives diffusion by replacing older products.
- b) New knowledge is only introduced through marketing strategies.
- c) Old products are replaced by new ones only if they are more aesthetically pleasing.
- d) Cost reduction is not considered in the Vintage Model.

Answer: a) New knowledge is embodied in new products and drives diffusion by replacing older products.

Explanation: The Vintage Model suggests that new knowledge is embodied in new products, which replace older products when the operating costs of the old products exceed their returns.

Q214. What does the Vintage Model assume about the introduction of new knowledge?

- a) New knowledge can be introduced to old equipment easily.
- b) New knowledge is introduced through separate new equipment only.
- c) New knowledge is embedded in old products through upgrades.
- d) Old equipment is replaced with new knowledge-based products only if it is profitable.

Answer: b) New knowledge is introduced through separate new equipment only.

Explanation: The Vintage Model assumes that new knowledge cannot be introduced on old equipment and is only introduced through new equipment.

Q215. What does the appearance of a cost-saving process innovation imply in the Vintage Model?

- a) Immediate replacement of some old products because new products are more cost-effective.
- b) Immediate discontinuation of all old products.
- c) A decrease in the efficiency of all old products.
- d) No impact on existing capital stock.

Answer: a) Immediate replacement of some old products because new products are more cost-effective.

Explanation: According to the Vintage Model, a cost-saving process innovation will make it profitable to replace some old products because new products have lower total costs.

Q216. What are the main assumptions of the Vintage Model?

- a) Cost minimization, visibility of plant, and introduction of new knowledge on old equipment.
- b) Cost minimization, invisibility of plant, and embodiment of knowledge in new products.
- c) Cost minimization, marketing strategies, and gradual replacement of old products.
- d) Cost maximization, visibility of plant, and incremental improvements in old products.

Answer: b) Cost minimization, invisibility of plant, and embodiment of knowledge in new products.

Explanation: The Vintage Model relies on assumptions of cost minimization, invisibility of plant, and that new knowledge is embodied in new products.

Q217. What are the four elements of information diffusion according to Elfreda A. Chatman?

- a) Innovation, communication, social structure, and time.
- b) Innovation, marketing, technology, and time.
- c) Communication, social structure, marketing, and decision-making.
- d) Social structure, technology, decision-making, and communication.

Answer: a) Innovation, communication, social structure, and time.

Explanation: Elfreda A. Chatman identifies four elements in information diffusion: innovation, communication, social structure, and time.

Q218. How does the "Attributes of Innovation Model" contribute to understanding information diffusion?

- a) By explaining characteristics that may influence the acceptance or rejection of innovations.
- b) By analyzing marketing strategies that affect diffusion.
- c) By detailing the stages of decision-making in information diffusion.
- d) By focusing on the impact of social structure on diffusion.

Answer: a) By explaining characteristics that may influence the acceptance or rejection of innovations.

Explanation: The Attributes of Innovation Model examines characteristics that affect how innovations are accepted or rejected, contributing to understanding information diffusion.

Q219. Why does the "Stages of Adoption Model" have limited applicability to job information diffusion?

- a) Job information has a finite usefulness and is limited to the number of available positions.
- b) Job information is not influenced by stages of

adoption.

c) Job information diffusion is purely based on marketing strategies.

d) Job information diffuses at a uniform rate regardless of stages.

Answer: a) Job information has a finite usefulness and is limited to the number of available positions.

Explanation: The Stages of Adoption Model has limited applicability to job information because its usefulness is finite and constrained by the number of available positions.

Q220. According to Sweeny (1989), what is crucial for making innovation commercially successful and giving a competitive edge?

a) The quality of information activities and the information process within a firm.

b) The quantity of market research conducted by a firm.

c) The number of patents a firm holds.

d) The size of the firm's R&D department.

Answer: a) The quality of information activities and the information process within a firm.

Explanation: Sweeny (1989) highlights that the quality of information activities and the information process is crucial for making innovation commercially successful and gaining a competitive edge.

Q221. What role does information play in the innovation process, according to Michael E. Porter (1990)?

a) Information is crucial for seeking new market opportunities and interpreting available data in innovative ways.

b) Information is only useful for administrative purposes.

c) Information is irrelevant if a firm has a strong R&D department.

d) Information primarily aids in managing production processes.

Answer: a) Information is crucial for seeking new market opportunities and interpreting available data in innovative ways.

Explanation: Michael E. Porter (1990) states that information plays a significant role in seeking new market opportunities and interpreting data in innovative ways, sometimes resulting from substantial investment in market research or R&D.

Q222. How does innovation typically begin, according to the observed studies?

a) Through the perception of a need or recognition of technical feasibility.

b) Through aggressive marketing strategies.

c) Through imitation of existing products.

d) Through random experimentation without a clear goal.

Answer: a) Through the perception of a need or recognition of technical feasibility.

Explanation: Studies suggest that innovation often begins with the perception of a need or recognition of technical feasibility, leading to the initiation of technological breakthroughs.

Q223. What is the primary function of an R&D establishment as described by Maddock?

a) To act as a link in the innovation chain to facilitate efficient innovation flow.

b) To focus solely on administrative tasks within the organization.

c) To manage only the financial aspects of innovation projects.

d) To oversee the marketing and sales of new products.

Answer: a) To act as a link in the innovation chain to facilitate efficient innovation flow.

Explanation: Maddock describes the main function of an R&D establishment as acting as a link in the

innovation chain to enable the innovation flow to occur more efficiently.

Q224. Which role is NOT listed as a function of an R&D establishment?

- a) **Providing an opportunity to bring relevant disciplines together.**
- b) **Applying science and technology at the lowest cost.**
- c) **Managing the sales and marketing of innovations.**
- d) **Assessing the feasibility of an innovation project.**

Answer: c) **Managing the sales and marketing of innovations.**

Explanation: The functions of an R&D establishment include bringing disciplines together, applying science and technology cost-effectively, and assessing feasibility, but do not include managing sales and marketing.

Q225. How do company and corporate research and development establishments differ from cooperative or national research institutes?

- a) **Company and corporate R&D focus on industrial innovation and new product development, while national research institutes focus on process improvement and technological infrastructure.**
- b) **Company and corporate R&D focus solely on process improvement, while national research institutes focus on new product development.**
- c) **Company and corporate R&D are less involved in technological infrastructure than national research institutes.**
- d) **Cooperative or national research institutes are primarily concerned with marketing strategies.**

Answer: a) **Company and corporate R&D focus on industrial innovation and new product**

development, while national research institutes focus on process improvement and technological infrastructure.

Explanation: Company and corporate R&D establishments typically focus on industrial innovation and new product development, while national research institutes emphasize process improvement and technological infrastructure.

Q226. What broad guidelines are suggested for industrial firms to make the best use of external information sources?

- a) **Establish in-house libraries, use correspondence information systems, and implement monitoring and business intelligence systems.**
- b) **Focus solely on increasing the number of patents and trademarks.**
- c) **Invest in marketing and sales strategies exclusively.**
- d) **Limit the use of external information sources to avoid information overload.**

Answer: a) **Establish in-house libraries, use correspondence information systems, and implement monitoring and business intelligence systems.**

Explanation: The guidelines for utilizing external information sources effectively include establishing in-house libraries, using correspondence information systems, and implementing monitoring and business intelligence systems.

Q227. What are the types of information sources?

- a) **Books, journals, trade literature, newspapers, patents, standards, manuals.**
- b) **Only digital data and online resources.**
- c) **Marketing surveys and financial reports.**
- d) **Internal memos and company emails.**

Answer: a) **Books, journals, trade literature, newspapers, patents, standards, manuals.**

Explanation: The types of information sources listed include books, journals, trade literature, newspapers, patents, standards, and manuals.

Q228. How do the information need of entrepreneurs establishing new industries differ from those of existing industries?

- a) small firms may need advice on setting up in-house libraries and information services.
- b) Existing industries require more advanced financial management systems.
- c) New industries only need assistance with marketing strategies.
- d) There is no significant difference in information needs between new and existing industries.

Answer: a) Small firms may need advice on setting up in-house libraries and information services.

Explanation: Entrepreneurs establishing new industries may need advice on setting up in-house libraries and information services, while existing industries may have different information needs.

Q229. Why is it important for management to be receptive to risk-taking in the context of innovation?

- a) Because innovation requires a willingness to take risks to foster new ideas and technologies.
- b) Because risk-taking is irrelevant to the success of innovation.
- c) Because it primarily affects the marketing strategies of the organization.
- d) Because risk-taking can lead to immediate financial gains.

Answer: a) Because innovation requires a willingness to take risks to foster new ideas and technologies.

Explanation: Management's receptiveness to risk-taking is crucial for encouraging innovation, as it

involves embracing new ideas and technologies despite uncertainties.

Q230. What is the focus of government policies regarding innovation support in different countries?

- a) Supporting large industrial firms and stimulating innovation through removal of impediments or subsidies for industrial R&D.
- b) Only providing financial aid to small firms without additional support.
- c) Eliminating all forms of government intervention in innovation.
- d) Focusing solely on technology transfer without supporting local innovation.

Answer: a) Supporting large industrial firms and stimulating innovation through removal of impediments or subsidies for industrial R&D.

Explanation: Government policies often focus on supporting large industrial firms, stimulating innovation by removing impediments, and providing subsidies for industrial R&D.

UNIT 6 GENERATION OF INFORMATION: MODES AND FORMS

Q231. How do deaf and dumb individuals primarily communicate?

- a) Using sign languages developed for communication through hands, fingers, and other body parts.
- b) Through written letters and emails.
- c) By using oral speech and sound-based communication.
- d) Via visual aids such as pictures and diagrams.

Answer: a) Using sign languages developed for communication through hands, fingers, and other body parts.

Explanation: Deaf and dumb individuals use sign language, which involve communicating through

gestures made with hands, fingers, and other parts of the body.

Q232. What were some of the materials used for recording handwritten information in ancient times?

- a) Papyrus, parchment, vellum, bhurjapatra, palm leaves, terracotta tablets, bamboo strips.
- b) Only modern paper and ink.
- c) Digital storage devices like CDs and DVDs.
- d) Plastic and synthetic materials.

Answer: a) Papyrus, parchment, vellum, bhurjapatra, palm leaves, terracotta tablets, bamboo strips.

Explanation: In ancient times, materials like papyrus, parchment, vellum, bhurjapatra, palm leaves, terracotta tablets, and bamboo strips were used for recording handwritten information.

Q233. What role did Johannes Gutenberg's technique of printing play in the dissemination of information?

- a) It led to a rapid increase in the circulation of books, including religious writings and classical works.
- b) It solely focused on enhancing handwritten manuscripts.
- c) It restricted the spread of information to only certain regions.
- d) It had no significant impact on the production of books.

Answer: a) It led to a rapid increase in the circulation of books, including religious writings and classical works.

Explanation: Johannes Gutenberg's printing technique significantly increased the circulation of books, particularly religious writings and classical

works, by making printed information more widely available.

Q234. What does the digitized form of information use to record data?

- a) Two digits: 0 and 1.
- b) Only alphabetical characters.
- c) Handwritten scripts and symbols.
- d) Photographs and illustrations.

Answer: a) Two digits: 0 and 1.

Explanation: The digitized form of information uses binary digits (0 and 1) to record data.

Q235. What is an example of condensed form of information?

- a) Abstracts and summaries.
- b) Detailed research reports.
- c) Full-length novels and textbooks.
- d) Comprehensive data sets and raw data.

Answer: a) Abstracts and summaries.

Explanation: Condensed forms of information include abstracts and summaries, which provide a brief overview of longer documents or texts.

Q236. How is coded information typically represented?

- a) Using numbers, letters, and symbols.
- b) Through detailed narrative descriptions.
- c) As photographic images and visual diagrams.
- d) In plain text without any form of encoding.

Answer: a) Using numbers, letters, and symbols.

Explanation: Coded information is often represented using numbers, letters, and symbols, sometimes in combinations.

Q237. What is the primary use of Morse code in telegraphy?

- a) To send telegrams using dots and dashes.
- b) To create detailed graphical representations of information.
- c) To encode digital data using binary code.
- d) To print large volumes of text quickly.

Answer: a) To send telegrams using dots and dashes.

Explanation: Morse code is used in telegraphy to send telegrams, utilizing dots and dashes to represent letters and numbers.

Q238. What is an example of how information was translated in ancient times?

- a) The Rosetta Stone, which included hieroglyphic content and its translation in demotic and Greek.
- b) Modern digital translation tools used for online communication.
- c) Oral translations performed during international conferences today.
- d) Current methods of translating scientific research articles.

Answer: a) The Rosetta Stone, which included hieroglyphic content and its translation in demotic and Greek.

Explanation: The Rosetta Stone featured hieroglyphic content alongside translations in demotic and Greek, which helped in deciphering Egyptian hieroglyphics and revealing Egypt's history.

Q239. In which form is information translated when a speech is delivered in one language and immediately translated into several other languages by interpreters?

- a) Oral to Oral Form
- b) Oral to Written Form
- c) Written to Oral Form
- d) Written to Written Form

Answer: a) Oral to Oral Form

Explanation: This scenario involves translating spoken information from one language to another immediately, which is referred to as oral-to-oral form.

Q240. How did the translation from oral to written form occur in the 1950s at Purnea Zila School?

- a) Bengali students translated lectures delivered in Hindi into Bengali and took notes.
- b) Teachers wrote lectures in Bengali while students translated them orally into Hindi.
- c) English lessons were translated into multiple regional languages for all students.
- d) Students transcribed English lectures directly into Hindi without translation.

Answer: a) Bengali students translated lectures delivered in Hindi into Bengali and took notes.

Explanation: In this case, Bengali students mentally translated Hindi lectures into Bengali for notetaking, demonstrating an oral to written form of translation.

Q241. What is an example of a written-to-written form of translation?

- a) The translation of Nehru's "Glimpses of World History" into multiple languages.
- b) Oral translation of English poems into local languages by teachers.
- c) Live translation of speeches during international conferences.
- d) Converting spoken language into sign language during lectures.

Answer: a) The translation of Nehru's "Glimpses of World History" into multiple languages.

Explanation: Translating a written book into different languages represents the written-to-written form of translation.

Q242. What is disguised form of information?

- a) Sentences that appear innocuous to the public but carry a hidden meaning for a specific audience.
- b) Detailed and explicit communication meant for public understanding.
- c) Information presented in a straightforward and unambiguous manner.
- d) Data that is encoded and requires a key for deciphering.

Answer: a) Sentences that appear innocuous to the public but carry a hidden meaning for a specific audience.

Explanation: Disguised form of information involves using sentences that seem harmless but convey hidden messages to those who understand the context.

Q243. What distinguishes secondary information from primary information?

- a) Secondary information is derived from primary information, such as abstracts or editorials.
- b) Primary information is summarized from secondary sources.
- c) Secondary information is collected directly from original research or experiments.
- d) Primary information is always published in books and journals.

Answer: a) Secondary information is derived from primary information, such as abstracts or editorials.

Explanation: Secondary information is generated based on primary information, such as creating abstracts or editorials from original research.

Q244. What type of information is produced when a review article is based on abstracts of original articles?

- a) Tertiary Information
- b) Secondary Information
- c) Primary Information
- d) Disguised Information

Answer: a) Tertiary Information

Explanation: A review article based on abstracts of original articles produces tertiary information, as it is derived from secondary sources.

UNIT 7 INFORMATION THEORY

Q245. What was the main focus of Claude E. Shannon's 1948 paper "A Mathematical Theory of Communication"?

- a) Digital communication systems and the sampling theorem.
- b) The semantics of information and its interpretation.
- c) The historical development of communication theories.
- d) The cultural impact of information technology.

Answer: a) Digital communication systems and the sampling theorem.

Explanation: Shannon's paper primarily addressed digital communication systems and proposed solutions for efficient information representation and error-free transmission, including the famous sampling theorem.

Q246. Which scientist's work did Shannon build upon for his sampling theorem?

- a) H. Nyquist
- b) R.V.L. Hartley
- c) W. Weaver
- d) Claude E. Shannon

Answer: a) H. Nyquist

Explanation: Shannon's sampling theorem was built upon Nyquist's earlier work, which established the

minimal sampling rate required for converting analog signals to digital without loss of information.

Q247. What was R.V.L. Hartley's contribution to the field of information theory?

- a) He proposed a measure for syntactic information.
- b) He developed the sampling theorem.
- c) He introduced the concept of channel coding.
- d) He established the theory of digital communication systems.

Answer: a) He proposed a measure for syntactic information.

Explanation: Hartley was the first to propose a measure for syntactic information, which Shannon later generalized by incorporating probability concepts.

Q248. Which approach to information theory is often considered the American tradition?

- a) Syntactic information theory
- b) Semantic-centred approach
- c) Context-dependent approach
- d) Recipient-centred approach

Answer: a) Syntactic information theory

Explanation: The syntactic approach, largely developed by Shannon and his associates, is often considered the American tradition of information theory.

Q249. What does the semantic-independent approach to information theory focus on?

- a) Information communication and storage aspects, ignoring semantic aspects.
- b) The semantics and meaning of information in different contexts.
- c) The recipient's interpretation and

understanding of information.

d) The impact of information on social and cultural contexts.

Answer: a) Information communication and storage aspects, ignoring semantic aspects.

Explanation: The semantic-independent approach, also known as syntactic information theory, focuses on the communication and storage of information without considering its semantic meaning.

Q250. Which of the following is NOT one of the four categories of approaches to information theory mentioned?

- a) Semantic-centered approach
- b) Context-dependent approach
- c) Recipient-centered approach
- d) Data-driven approach

Answer: d) Data-driven approach

Explanation: The four categories mentioned are semantic-centered, context-dependent, recipient-centered, and semantic-independent approaches. Data-driven approach is not included in these categories.

Q251. What is the main emphasis of the semantic-centered approach to information theory?

- a) Context-independent measurement of information content of messages.
- b) Efficient and reliable communication and storage of information.
- c) Evaluation of information based on contextual aspects like place and time.
- d) User's needs and relevance of the information.

Answer: a) Context-independent measurement of information content of messages.

Explanation: The semantic-centered approach focuses on evaluating the relative information content of messages without considering the context of the source or recipient.

Q252. What is another name for the context-dependent approach in information theory?

- a) Syntactic information approach
- b) User-centered information approach
- c) Pragmatic information approach
- d) Semantic-independent information approach

Answer: c) Pragmatic information approach

Explanation: The context-dependent approach is also known as the pragmatic information approach, as it considers contextual aspects such as place and time in evaluating information content.

Q253. How does the user-centered approach to information theory differ from other approaches?

- a) It is context-independent and focuses on information content.
- b) It considers the user's needs and assigns different values to information based on relevance.
- c) It ignores semantic aspects and focuses on communication efficiency.
- d) It solely deals with the mathematical aspects of information theory.

Answer: b) It considers the user's needs and assigns different values to information based on relevance.

Explanation: The user-centered approach varies depending on the user's perspective and the relevance of the information to them, making it either context-dependent or context-independent.

Q254. What is the focus of the semantic-independent approach to information theory?

- a) Efficient and reliable communication and storage of information, ignoring semantic aspects.
- b) Evaluating information based on the user's context and needs.

- c) Measurement of relative information content without regard to the sender's choice of message.
- d) Integration of semantic and syntactic aspects of information.

Answer: a) Efficient and reliable communication and storage of information, ignoring semantic aspects.

Explanation: The semantic-independent approach, also known as syntactic information theory, focuses on the efficiency and reliability of information communication and storage without considering its semantic meaning.

Q255. Which term is used to denote studies that ignore semantic aspects of information?

- a) Syntactic studies
- b) Pragmatic studies
- c) Semantic-centered studies
- d) User-centered studies

Answer: a) Syntactic studies

Explanation: Syntactic studies refer to the analysis of information focusing on its formal structure rather than its semantic content.

Q256. What is the definition of information provided in the Unit?

- a) A description of the state of an object.
- b) A measurement of the content of a message.
- c) The efficiency of communication between sender and receiver.
- d) The relevance of information to the recipient.

Answer: a) A description of the state of an object.

Explanation: Information is defined as a description of the state of an object, which can be verbal or non-verbal.

Q257. What are the four levels of human thought process as depicted in the model?

- a) **Data, Information, Knowledge, Wisdom**
- b) **Data, Context, Message, Meaning**
- c) **Knowledge, Wisdom, Communication, Information**
- d) **Facts, Analysis, Insights, Decisions**

Answer: a) **Data, Information, Knowledge, Wisdom**

Explanation: The four levels of human thought process are data, information, knowledge, and wisdom, which represent a continuum with overlapping areas.

Q258. What is meant by the "knowledge continuum" in the context of the four-level abstraction model?

- a) **The overlap and transition between data, information, knowledge, and wisdom.**
- b) **The separation between raw data and abstract concepts.**
- c) **The progression from one specific knowledge area to another.**
- d) **The continuity in the measurement of information.**

Answer: a) **The overlap and transition between data, information, knowledge, and wisdom.**

Explanation: The knowledge continuum refers to the overlapping and transitional nature of the levels from data to wisdom, reflecting their interconnectedness.

Q259. At the lowest level of abstraction, what is considered raw data?

- a) **A collection of facts observable from nature or experimental outcomes.**
- b) **Abstract insights derived from data analysis.**
- c) **Personal interpretations and subjective**

assessments.

- d) **Comprehensive theories and models.**

Answer: a) **A collection of facts observable from nature or experimental outcomes.**

Explanation: Raw data includes basic facts and measurements collected from nature or experiments, representing the initial level of abstraction.

Q260. What is the basis of Shannon's approach in information theory?

- a) **Recipient-centric perspective**
- b) **Context-dependent communication**
- c) **Source-centric perspective**
- d) **Pragmatic approach**

Answer: c) **Source-centric perspective**

Explanation: Shannon's approach is based on a source-centric perspective, where the focus is on the source's role in deciding what messages to send.

Q261. What does Shannon's model assume about the source in communication?

- a) **The source considers the situation and recipient's condition.**
- b) **The source independently decides on the message without considering the recipient's condition.**
- c) **The source adjusts its messages based on feedback from the recipient.**
- d) **The source is influenced by noise and errors in the channel.**

Answer: b) **The source independently decides on the message without considering the recipient's condition.**

Explanation: Shannon's model assumes that the source operates independently of the recipient's situation or condition, which is not entirely accurate in real human communication.

Q262. What is the term used for the average information content of a message over a long period of time in Shannon's model?

- a) Source information rate (SIR)
- b) Message entropy
- c) Source entropy
- d) Information content

Answer: c) Source entropy

Explanation: The average information content per message in a sequence is referred to as source entropy or information entropy, denoted by the symbol H .

Q263. What is the main focus of Shannon's source coding method?

- a) Improving the reliability of communication channels
- b) Reducing noise in the communication channel
- c) Achieving efficiency in communication
- d) Adjusting the message based on the recipient's needs

Answer: c) Achieving efficiency in communication

Explanation: Shannon proposed source coding as a method to achieve efficiency in communication by encoding information in a way that minimizes redundancy.

Q264. What does the model in Fig. 7.3(a) assume about the communication channel?

- a) The channel is prone to errors and noise
- b) The channel affects the signal quality
- c) The channel is error-free and reliable
- d) The channel introduces delays in communication

Answer: c) The channel is error-free and reliable

Explanation: The model assumes an ideal channel that can transport information with perfect accuracy, unaffected by noise or impairments.

Q265. What is the extension of the idea of source entropy in Shannon's model?

- a) Message entropy
- b) Channel capacity
- c) Source information rate (SIR)
- d) Coding efficiency

Answer: c) Source information rate (SIR)

Explanation: The concept of source information rate (SIR) extends the idea of source entropy, referring to the rate at which information is produced by the source.

UNIT 8 DIGITAL INFORMATION

Q266. What is the term used for documents that contain digital information?

- a) Print documents
- b) Digital documents
- c) E-books
- d) Analog documents

Answer: b) Digital documents

Explanation: Documents that contain digital information are referred to as digital documents, which may also be called e-documents or e-papers.

Q267. What are the additional components found in digital documents compared to print documents?

- a) Text and figures
- b) Graphs and tables
- c) Voice, music, animation, and motion video
- d) Only text and photographs

Answer: c) Voice, music, animation, and motion video

Explanation: Unlike print documents, digital documents can include multimedia components such as voice, music, animation, and motion video.

Q268. What distinguishes a digital multimedia component from a digitized multimedia component?

- a) Digital components are created on the computer, while digitized components are converted from non-electronic or analog sources.
- b) Digitized components are created on the computer, while digital components are scanned from non-electronic sources.
- c) Both digital and digitized components are created from analog sources.
- d) Digital components are always in color, while digitized components are black and white.

Answer: a) Digital components are created on the computer, while digitized components are converted from non-electronic or analog sources.

Explanation: Digital components are directly created on the computer, while digitized components are converted from non-electronic or analog sources through scanning or photographic processes.

Q269. What is created when text is digitized by a photographic process?

- a) Digital text
- b) Image map of each character
- c) Computer animation
- d) Digitized video

Answer: b) Image map of each character

Explanation: When text is digitized by a photographic process, an image map of each character is created, which needs further processing to be used as digital text characters.

Q270. Which feature of digital documents allows for instant searchability of specific strings of characters?

- a) Annotation
- b) Editing
- c) Searchability
- d) Likability

Answer: c) Searchability

Explanation: Digital text documents are searchable, allowing users to locate specific strings of characters, such as keywords, instantly.

Q271. How can digital documents be annotated?

- a) By adding images
- b) By creating hyperlinks
- c) With searchable texts
- d) By changing document formats

Answer: c) With searchable texts

Explanation: Digital documents can be annotated with texts that are searchable, enhancing the document's usability.

Q272. What feature allows digital documents to be shared by many users at the same time?

- a) Linkability
- b) Transferability
- c) Shareability
- d) Searchability

Answer: c) Shareability

Explanation: Digital documents can be shared by multiple users simultaneously, a key advantage over paper-based documents.

Q273. How many characters are typically included in the character set for English text?

- a) 26
- b) 52
- c) 95
- d) 128

Answer: c) 95

Explanation: The character set for English text includes 26 upper case letters, 26 lower case letters, 10 digits, and special symbols, totaling 95 characters.

Q274. Why is a 7-bit string adequate to represent all the characters in the text character set?

- a) It provides 64 combinations.
- b) It provides 95 combinations.
- c) It provides 128 combinations.
- d) It provides 256 combinations.

Answer: c) It provides 128 combinations.

Explanation: A 7-bit string provides 128 combinations, which is sufficient to represent all 95 characters in the text character set.

Q275. What is the primary use of the spare 33 combinations in a 7-bit code?

- a) To represent additional characters
- b) To control various aspects of information communication
- c) To store images
- d) To encode encryption keys

Answer: b) To control various aspects of information communication

Explanation: The spare 33 combinations in a 7-bit code are used for control characters or control codes, which are used to communicate special signals to devices like printers.

Q276. What is the standard 7-bit code used widely for text representation?

- a) Extended Binary Coded Decimal Interchange Code (EBCDIC)
- b) Rich Text Format (RTF)
- c) American Standard Code for Information Interchange (ASCII)

d) International Standard Code for Information Interchange (ISCII)

Answer: c) American Standard Code for Information Interchange (ASCII)

Explanation: ASCII is the most widely used 7-bit code for text representation.

Q277. What does the extra bit in an 8-bit representation of ASCII typically used for?

- a) Representing additional characters
- b) Formatting text
- c) Error detection
- d) Encrypting data

Answer: c) Error detection

Explanation: The extra bit in an 8-bit ASCII representation is used for error detection.

Q278. What is the primary purpose of Rich Text Format (RTF) in digital text documents?

- a) To store files in a binary format
- b) To provide a standard for transporting text documents across different computers and software
- c) To encode text in a 7-bit code
- d) To encrypt text files

Answer: b) To provide a standard for transporting text documents across different computers and software

Explanation: RTF is a widely used standard for conveying formatting information and standard file formats for transporting text documents across different systems and software.

Q279. What is a key feature of Extended Binary Coded Decimal Interchange Code (EBCDIC)?

- a) It is a 7-bit representation of characters.
- b) It is used mainly on large IBM computers and is an 8-bit code.
- c) It is used for formatting text.
- d) It is used for encrypting text documents.

Answer: b) It is used mainly on large IBM computers and is an 8-bit code.

Explanation: EBCDIC is an 8-bit code used primarily on large IBM computers.

Q280. What is the primary purpose of scanning or photographic imaging in digitizing a document?

- a) To convert the document to an electronic format
- b) To improve the quality of the printed document
- c) To add color to the document
- d) To print additional copies of the document

Answer: a) To convert the document to an electronic format

Explanation: Scanning or photographic imaging is used to convert a non-electronic document into an electronic format for digitization.

Q281. What is the main difference between analog and digital imaging devices?

- a) Analog devices produce binary digits, while digital devices produce wave-like signals.
- b) Analog devices produce wave-like signals, while digital devices produce binary digits.
- c) Analog devices use a camera, while digital devices use a scanner.
- d) Analog devices are faster than digital devices.

Answer: b) Analog devices produce wave-like signals, while digital devices produce binary digits.

Explanation: Analog devices produce wave-like electrical signals, whereas digital devices produce voltage levels representing binary digits.

Q282. What term describes the individual dots used in the scanning process?

- a) Pels
- b) Pixels
- c) Voxels
- d) Dots

Answer: b) Pixels

Explanation: The individual dots used in the scanning process are called pixels, which stand for picture elements.

Q283. What does dpi stand for in the context of scanning resolution?

- a) Dots per inch
- b) Digital pixels index
- c) Data per inch
- d) Dots per image

Answer: a) Dots per inch

Explanation: DPI stands for dots per inch, which measures the density of dots in scanning resolution.

Q284. What is the typical bit depth used for representing 256 levels of grey in a B&W document scan?

- a) 4-bit string
- b) 8-bit string
- c) 16-bit string
- d) 24-bit string

Answer: b) 8-bit string

Explanation: An 8-bit string (byte) is used to represent 256 levels of grey in a B&W document scan.

Q285. How many grey levels can be distinguished using a 4-bit string in a B&W document scan?

- a) 16 levels
- b) 256 levels
- c) 32 levels
- d) 64 levels

Answer: a) 16 levels

Explanation: A 4-bit string (nibble) can distinguish 16 grey levels in a B&W document scan.

Q286. What is the effect of increasing the scanning resolution on the time required to scan a document?

- a) It decreases the time required to scan the document.
- b) It has no effect on the time required to scan the document.
- c) It increases the time required to scan the document.
- d) It makes the document more readable.

Answer: c) It increases the time required to scan the document.

Explanation: Higher scanning resolution increases the number of pixels and therefore the time required to scan the document.

Q287. How many grey levels are typically recognized by commercial facsimile (fax) machines using scanning techniques?

- a) 2 levels
- b) 16 levels
- c) 256 levels
- d) 1024 levels

Answer: a) 2 levels

Explanation: Commercial fax machines typically recognize only two grey levels: black and white.

Q288. Why is image compression necessary after scanning an image?

- a) To increase the storage space required for the image
- b) To reduce the size of the scanned image file and save storage space
- c) To improve the quality of the scanned image
- d) To convert the image into a different color format

Answer: b) To reduce the size of the scanned image file and save storage space

Explanation: Image compression is used to reduce the size of the scanned image file and save storage space, as scanned images can be very large.

Q289. What are the two broad classes of image compression techniques?

- a) Lossy and lossless
- b) Information preserving and approximation
- c) Color and grayscale
- d) High-resolution and low-resolution

Answer: b) Information preserving and approximation

Explanation: The two broad classes of image compression techniques are information preserving and approximation techniques.

Q290. What does the compression ratio (CR) measure in image compression?

- a) The amount of detail lost during compression
- b) The difference between the original and compressed image sizes
- c) The number of colors in the image
- d) The speed of the compression process

Answer: b) The difference between the original and compressed image sizes

Explanation: The compression ratio (CR) measures the ratio of the size of the uncompressed image to the size of the compressed image.

Q291. Which technique is generally used for documents containing factual data, information preserving or approximation?

- a) Approximation techniques
- b) Information preserving techniques
- c) Color scanning techniques
- d) High-resolution techniques

Answer: b) Information preserving techniques

Explanation: Information preserving techniques are used for documents containing factual data to ensure the integrity of the contents is maintained.

Q292. What is the typical range of compression ratios produced by most compression software packages?

- a) 1 - 5
- b) 5 - 10
- c) 10 - 20
- d) 20 - 30

Answer: c) 10 - 20

Explanation: Most compression software packages produce a compression ratio in the range of 10 to 20.

Q293. How does color scanning differ from black-and-white scanning in terms of data size?

- a) Color scanning produces data that is smaller than black-and-white scanning.
- b) Color scanning and black-and-white scanning produce data of the same size.
- c) Color scanning produces data that is three times larger than black-and-white scanning.
- d) Color scanning produces data that is six times larger than black-and-white scanning.

Answer: c) Color scanning produces data that is three times larger than black-and-white scanning.

Explanation: Colour scanning produces 3 bytes of digital data for each pixel, making the size of a colour image three times larger than a black-and-white image for the same scanning resolution.

Q294. How many bytes of digital data does a high-resolution color scanner use for each pixel?

- a) 1 byte
- b) 3 bytes
- c) 6 bytes
- d) 8 bytes

Answer: c) 6 bytes

Explanation: High-resolution color scanners use 16 bits (2 bytes) for each color (red, green, blue), totaling 6 bytes of digital data for each pixel.

Q295. What frequency range do human eyes recognize for color perception?

- a) 1×10^{14} - 3×10^{14} Hz
- b) 2×10^{14} - 6×10^{14} Hz
- c) 4×10^{14} - 8×10^{14} Hz
- d) 6×10^{14} - 10×10^{14} Hz

Answer: c) 4×10^{14} - 8×10^{14} Hz

Explanation: Human vision recognizes radiation in the frequency range of 4×10^{14} to 8×10^{14} Hz, which corresponds to the colors of the rainbow.

Q296. Why is it beneficial to store text information in ASCII form instead of as scanned images?

- a) ASCII form requires more storage space than scanned images.
- b) Scanned images are more efficient for storing text information.
- c) ASCII form requires significantly less storage space compared to scanned images.
- d) ASCII form is not suitable for text information.

Answer: c) ASCII form requires significantly less storage space compared to scanned images.

Explanation: Storing text information in ASCII form requires much less storage space compared to storing it as scanned images.

Q297. What is Optical Character Recognition (OCR)?

- a) A process of converting scanned images into ASCII text files.
- b) A method of compressing scanned images.
- c) A technique for manually editing text files.
- d) A system for managing document retrieval and distribution.

Answer: a) A process of converting scanned images into ASCII text files.

Explanation: Optical Character Recognition (OCR) involves processing scanned images to recognize character patterns and reconstruct text files from these images.

Q298. When is character recognition likely to be highly successful?

- a) With handwritten documents.
- b) With documents containing a mix of images and text.
- c) With typewritten or printed documents.
- d) With scanned images of photographs.

Answer: c) With typewritten or printed documents.

Explanation: Character recognition is more successful with typewritten or printed documents compared to handwritten ones.

Q299. What kind of software is commonly used to aid in the editing process after character recognition?

- a) Document management software
- b) Optical storage software

- c) Spelling and grammar checking software
- d) Scanning software

Answer: c) Spelling and grammar checking software

Explanation: Spelling and grammar checking software helps in manually editing the output of character recognition to ensure accuracy.

Q300. What is a key component of a typical document management system?

- a) Only a scanner and character recognition software
- b) A scanner, character recognition software, office management software, a personal computer, a printer, and optical storage devices
- c) A printer and optical storage devices only
- d) Office management software and personal computer only

Answer: b) A scanner, character recognition software, office management software, a personal computer, a printer, and optical storage devices

Explanation: A typical document management system includes a scanner, character recognition software, office management software, a personal computer, a printer, and optical storage devices.

Q301. What problem is commonly faced with character recognition when processing handwritten documents?

- a) Character recognition is always completely accurate.
- b) Character recognition may be only partially correct and require manual editing.
- c) Handwritten documents are not processed by OCR systems.
- d) Handwritten documents are processed faster than typewritten ones.

Answer: b) Character recognition may be only partially correct and require manual editing.

Explanation: Character recognition with handwritten documents may only be partially correct, often requiring manual editing to ensure accuracy.

Q302. What does the process of Optical Character Recognition (OCR) typically involve before recognizing characters?

- a) Digitizing color images.
- b) Scanning the document to create a digital image.
- c) Compressing the scanned image.
- d) Formatting the text for output.

Answer: b) Scanning the document to create a digital image.

Explanation: OCR involves scanning the document to create a digital image before recognizing and converting characters into text.

Q303. What is the primary reason for converting analog information to digital form?

- a) Digital technology is less reliable than analog technology.
- b) Analog signals are less susceptible to external noise compared to digital signals.
- c) Digital technology offers better noise immunity, quality, and consistency.
- d) Analog technology is more rugged and reliable than digital technology.

Answer: c) Digital technology offers better noise immunity, quality, and consistency.

Explanation: Converting analog information to digital form is primarily done because digital technology provides better noise immunity, quality, and consistency compared to analog technology.

Q304. What devices are used to convert analog information to digital form?

- a) Digital to Analog Converters (DAC)
- b) Analog to Digital Converters (ADC)
- c) Digital signal processors (DSP)
- d) Photographic imaging devices

Answer: b) Analog to Digital Converters (ADC)

Explanation: Analog to Digital Converters (ADC) are used to convert analog information into digital form.

Q305. Why might digital information need to be converted back to analog form?

- a) Digital technology is not suitable for human consumption.
- b) Digital signals are more susceptible to external noise than analog signals.
- c) To store and process information digitally, analog conversion is unnecessary.
- d) Human ears and eyes are tuned to perceive analog signals.

Answer: d) Human ears and eyes are tuned to perceive analog signals.

Explanation: Digital information is converted back to analog form because human ears and eyes are naturally tuned to perceive analog signals.

Q306. What are the two main types of converters discussed in the text?

- a) Digital signal processors and photographic imaging devices
- b) Analog to Digital Converters (ADC) and Digital to Analog Converters (DAC)
- c) Scanners and character recognition software
- d) Compression software and storage devices

Answer: b) Analog to Digital Converters (ADC) and Digital to Analog Converters (DAC)

Explanation: The two main types of converters discussed are Analog to Digital Converters (ADC) and Digital to Analog Converters (DAC).

Q307. What is a significant disadvantage of analog signals mentioned in the text?

- a) They offer better noise immunity compared to digital signals.
- b) They are not affected by variations in ambient temperature.
- c) They are susceptible to external noise and their reception becomes unreliable in the presence of noise.
- d) They are not suitable for processing or communication.

Answer: c) They are susceptible to external noise and their reception becomes unreliable in the presence of noise.

Explanation: Analog signals are susceptible to external noise, which can make their reception unreliable.

Q308. How does the digital technology compare to analog technology in terms of system design for new quantities?

- a) Digital technology requires new system designs for each new quantity.
- b) Analog technology requires new system designs for each new quantity.
- c) Digital technology does not require any new system designs for different quantities.
- d) Both digital and analog technologies require new system designs for each new quantity.

Answer: b) Analog technology requires new system designs for each new quantity.

Explanation: Analog technology often requires the design of new systems for each new quantity due to differences in electrical characteristics.

Q309. What is the frequency range of human hearing known as?

- a) Audio spectrum
- b) Speech spectrum
- c) Music spectrum
- d) Digital spectrum

Answer: a) Audio spectrum

Explanation: The range of frequencies that the human ear can hear is called the audio spectrum, which spans from 20 Hz to 20 kHz.

Q310. What is the sampling rate and bit rate used for digitizing telephone quality speech?

- a) 8 kHz sampling rate and 56 kbps bit rate
- b) 8 kHz sampling rate and 64 kbps bit rate
- c) 44.1 kHz sampling rate and 1.41 Mbps bit rate
- d) 48 kHz sampling rate and 1.536 Mbps bit rate

Answer: b) 8 kHz sampling rate and 64 kbps bit rate

Explanation: Telephone quality speech is digitized using an 8 kHz sampling rate and an 8-bit resolution, resulting in a bit rate of 64 kbps.

Q311. What is a major disadvantage of digital audio?

- a) It has a low bit rate.
- b) It produces a large volume of data.
- c) It is less compatible with digital storage.
- d) It requires low sampling rates.

Answer: b) It produces a large volume of data.

Explanation: A major disadvantage of digital audio is that it produces a large volume of data, which can be challenging for storage.

Q312. What sampling rate and bit resolution are used for audio CDs?

- a) 8,000 Hz and 8 bits
- b) 32,000 Hz and 16 bits
- c) 44,100 Hz and 16 bits
- d) 48,000 Hz and 24 bits

Answer: c) 44,100 Hz and 16 bits

Explanation: Audio CDs use a sampling rate of 44,100 Hz and a bit resolution of 16 bits.

Q313. Which digital audio compression standard is commonly associated with Dolby sound in cinema theatres?

- a) MP3
- b) WAV
- c) AC-3
- d) FLAC

Answer: c) AC-3

Explanation: The AC-3 compression standard is associated with Dolby sound, which is commonly used in cinema theatres.

Q314. What is the bit rate for Digital Audio Tape (DAT) with stereo audio?

- a) 64 kbps
- b) 1.41 Mbps
- c) 1.024 Mbps
- d) 1.536 Mbps

Answer: d) 1.536 Mbps

Explanation: Digital Audio Tape (DAT) with stereo audio has a bit rate of 1.536 Mbps.

Q315. What is the principle behind motion video?

- a) Projecting a sequence of still images at a high rate
- b) Using a single image for continuous playback
- c) Displaying images at a very slow rate
- d) Using static images with no motion

Answer: a) Projecting a sequence of still images at a high rate

Explanation: Motion video is created by projecting a sequence of still images at a certain rate, which gives the impression of continuous movement due to the persistence of vision.

Q316. What is the typical frame rate required to produce a smooth picture in motion video?

- a) 15 fps
- b) 20 fps
- c) 25 - 30 fps
- d) 40 fps

Answer: c) 25 - 30 fps

Explanation: A frame rate of 25 - 30 frames per second (fps) is typically required to produce a smooth picture in motion video.

Q317. What type of converter is used to digitize an analog video image?

- a) Digital to Analog Converter (DAC)
- b) Analog to Digital Converter (ADC)
- c) Image Processor
- d) Video Enhancer

Answer: b) Analog to Digital Converter (ADC)

Explanation: Analog to Digital Converters (ADC) are used to digitize analog video images.

Q318. Which compression technique is commonly used for digital video?

- a) JPEG
- b) MPEG
- c) PNG
- d) GIF

Answer: b) MPEG

Explanation: The Moving Picture Experts Group (MPEG) format is widely used for compressing and storing digital video.

Q319. What additional type of redundancy is used in video compression beyond frame-by-frame techniques?

- a) Audio redundancy
- b) Temporal redundancy between adjacent frames
- c) Color redundancy
- d) Textual redundancy

Answer: b) Temporal redundancy between adjacent frames

Explanation: Video compression utilizes temporal redundancy between adjacent frames, recording only the differences between frames when there is no scene change.

Q320. What is the frame rate typically used in traditional animation?

- a) 5 - 10 fps
- b) 10 - 15 fps
- c) 15 - 20 fps
- d) 25 - 30 fps

Answer: c) 15 - 20 fps

Explanation: Traditional animation often uses a frame rate of 15 - 20 frames per second (fps) for creating moving images from still drawings.

Q321. What are the three main classes of digital document formats?

- a) Text formats, Presentation formats, and Structured formats
- b) Text formats, Image formats, and Video formats
- c) Text formats, Audio formats, and Multimedia formats

d) Presentation formats, Structured formats, and Audio formats

Answer: a) Text formats, Presentation formats, and Structured formats

Explanation: Digital document formats fall into three classes: basic text formats, presentation formats, and structured formats.

Q322. Which text format is used for representing characters in major written languages beyond Western languages?

- a) ASCII
- b) RTF
- c) Unicode
- d) PDF

Answer: c) Unicode

Explanation: Unicode is a 16-bit code used to represent characters in major written languages globally, extending beyond the Latin characters of ASCII.

Q323. What is a primary feature of Rich Text Format (RTF)?

- a) Support for multimedia content and hyperlinks
- b) Advanced page layout features like tables and drawings
- c) Minimal formatting features such as font types and sizes
- d) Complex page description language

Answer: c) Minimal formatting features such as font types and sizes

Explanation: RTF supports basic formatting features like font types, sizes, and text styles but does not support multimedia content or advanced page layout features.

Q324. Which presentation format is an improved version of Postscript that includes features like a table of contents and internal hyperlinks?

- a) HTML
- b) RTF
- c) PDF
- d) XML

Answer: c) PDF

Explanation: PDF is an improved version of Postscript that supports additional features such as a table of contents, internal hyperlinks, and thumbnail views.

Q325. What is a primary characteristic of Structured formats?

- a) Preservation of the original look and feel of documents
- b) Use of page description languages
- c) Mark-up principles for electronic documents
- d) Support for multimedia content

Answer: c) Mark-up principles for electronic documents

Explanation: Structured formats use mark-up principles to define the structure of electronic documents, but they do not retain the original look and feel of the documents.

Q326. What is the simplified version of SGML that is extensively used on the Internet?

- a) XML
- b) HTML
- c) RTF
- d) PDF

Answer: b) HTML

Explanation: HTML (Hypertext Mark-up Language) is a simplified version of SGML (Standard

Generalized Mark-up Language) used extensively on the Internet.

Q327. What is an enhanced version of HTML that retains its simplicity but offers more features?

- a) SGML
- b) XML
- c) RTF
- d) PDF

Answer: b) XML

Explanation: XML (Extensible Mark-up Language) is an enhanced version of HTML, retaining its simplicity while providing additional features.

Q328. What are the three commonly used formats for storing and transferring digital images?

- a) TIFF, GIF, JPEG
- b) PNG, BMP, TIFF
- c) JPEG, PNG, GIF
- d) TIFF, PNG, BMP

Answer: a) TIFF, GIF, JPEG

Explanation: The three commonly used formats for digital images are TIFF, GIF, and JPEG.

Q329. Which image format uses lossless compression and is commonly used for image scanners and DTP software?

- a) GIF
- b) JPEG
- c) TIFF
- d) PNG

Answer: c) TIFF

Explanation: TIFF uses lossless compression, preserving the original image exactly and is used for image scanners and DTP software.

Q330. What is the limitation of the GIF image format?

- a) Supports only 256 colors or grey levels
- b) High compression ratios with loss of quality
- c) Supports 16 million colors
- d) Requires OCR software for text recognition

Answer: a) Supports only 256 colors or grey levels

Explanation: GIF supports only 256 colors or grey levels, which limits its resolution but results in smaller file sizes.

Q331. Which image format is optimized for continuous tone products like photographs and uses lossy compression?

- a) GIF
- b) TIFF
- c) JPEG
- d) PNG

Answer: c) JPEG

Explanation: JPEG is optimized for continuous tone images like photographs and uses lossy compression to achieve high compression ratios.

Q332. Which audio format uses a standard file structure and supports streaming capability?

- a) MP3
- b) AIFF
- c) WAV
- d) AU

Answer: a) MP3

Explanation: MP3 uses a standard file structure and supports streaming capability, allowing users to listen to part of the file while the rest is being downloaded.

Q333. What does the 'Wrapper' in digital audio formats contain?

- a) Sampling rate and sample resolution
- b) Information about compression used
- c) Management information such as licensing conditions
- d) Playback settings

Answer: c) Management information such as licensing conditions

Explanation: The 'Wrapper' in digital audio format contains management information, such as licensing conditions from the copyright owner.

Unit 9 Social Implications of Information

Q334. Who is the author of the three books that dramatically picture the changes in the Information Society?

- a) Marshall McLuhan
- b) Alvin Toffler
- c) Daniel Bell
- d) Manuel Castells

Answer: b) Alvin Toffler

Explanation: Alvin Toffler is the author of the three books that portray the changes in the Information Society.

Q335. What concept does Alvin Toffler's book *The Future Shock* (1971) focus on?

- a) Technological advancements in computing
- b) Stress and disorientation caused by rapid changes
- c) Industrial revolution
- d) The rise of the internet

Answer: b) Stress and disorientation caused by rapid changes

Explanation: *The Future Shock* discusses how rapid changes create stress and disorientation as people and organizations struggle to cope with these changes.

Q336. According to *The Third Wave* (1980), what is the Third Wave of change?

- a) The agricultural revolution
- b) The industrial revolution
- c) The post-smokestack civilization based on technology and information
- d) The digital revolution

Answer: c) The post-smokestack civilization based on technology and information

Explanation: *The Third Wave* refers to the changes in society starting in the 1950s, leading to a post-smokestack civilization based on computers, electronics, and information technologies.

Q337. What term did Alvin Toffler introduce in *The Third Wave* to describe the merging roles of producers and consumers?

- a) Infomediary
- b) Prosumer
- c) Technophile
- d) Technocrat

Answer: b) Prosumer

Explanation: In *The Third Wave*, Toffler introduced the term "prosumer" to describe the fusion of producer and consumer roles.

Q338. What is the primary focus of Alvin Toffler's book *Power Shift* (1991)?

- a) The history of the information age
- b) The role of power in the information society

- c) The impact of digital media on social interactions
- d) The development of artificial intelligence

Answer: b) The role of power in the information society

Explanation: *Power Shift* focuses on the changing role of knowledge and information in the context of power shifts in business, economy, and politics.

Q339. In *Power Shift*, what industries and sectors does Alvin Toffler highlight as undergoing significant power shifts?

- a) Agriculture and mining
- b) Manufacturing and transportation
- c) Supermarkets, hospitals, banks, and media
- d) Energy and automotive industries

Answer: c) Supermarkets, hospitals, banks, and media

Explanation: Toffler describes significant power shifts occurring in everyday sectors like supermarkets, hospitals, banks, and the media in *Power Shift*.

Q340. What motivates business and industry to modernize their functions and processes?

- a) Profit and leadership desire
- b) Government regulations
- c) Technological advancements
- d) Public demand

Answer: a) Profit and leadership desire

Explanation: Business and industry modernize their functions and processes, driven by the desire for profit and the ambition to be leaders in their fields.

Q341. Which sector was the first to use management information systems (MIS) for generating internal information using IT?

- a) Government organizations
- b) Educational institutions

- c) **Business and industry**
- d) **Healthcare**

Answer: c) **Business and industry**

Explanation: Business and industry were the first to adopt management information systems (MIS) to produce and access internally generated information using IT.

Q342. What is increasingly recognized as invaluable for business and industry to thrive in a competitive environment?

- a) **Internal information only**
- b) **External information about markets, competitors, and regulations**
- c) **Innovative marketing techniques**
- d) **Technological gadgets**

Answer: b) **External information about markets, competitors, and regulations**

Explanation: External information regarding markets, competitors, customers, and government regulations is recognized as crucial for businesses to thrive.

Q343. What does the concept of knowledge management include in business and industry?

- a) **financial reports**
- b) **Sales and marketing techniques**
- c) **Internal company information and external competitive intelligence**
- d) **Legal documents**

Answer: c) **Internal company information and external competitive intelligence**

Explanation: Knowledge management in business includes both internal company information and external data on competitors, sales, and markets.

Q344. What is the role of 'knowledge workers' in business and industry?

- a) **Manufacturing products**
- b) **Providing customer support**
- c) **Strategically planning and executing business functions**
- d) **Maintaining equipment**

Answer: c) **Strategically planning and executing business functions**

Explanation: Knowledge workers in business and industry strategically plan and execute various business functions to ensure success in competitive environments.

Q345. How does the Information Industry Association define the information industry?

- a) **A sector focused only on digital technologies**
- b) **A market with information content integrated with hardware, software, and communication technologies**
- c) **A traditional publishing sector**
- d) **A financial and trading industry**

Answer: b) **A market with information content integrated with hardware, software, and communication technologies**

Explanation: The Information Industry Association defines the information industry as a marketplace where information content is combined with hardware, software, and communication technologies to provide solutions.

Q346. Which of the following is classified under 'Content Services' by the Information Industry Association?

- a) **Modems and networks**
- b) **News, libraries, databases, and information brokers**

- c) Software development
- d) Office equipment and computers

Answer: b) News, libraries, databases, and information brokers

Explanation: 'Content Services' include news, libraries, databases, and information brokers as identified by the Information Industry Association.

Q347. What is included in the 'Information Technology Business' according to the Information Industry Association?

- a) Books and journals
- b) Computers, terminals, and office equipment
- c) Data processing and networks
- d) Films and DVDs

Answer: b) Computers, terminals, and office equipment

Explanation: The 'Information Technology Business' segment includes computers, terminals, office equipment, and printing technologies.

Q348. What stage of industrialization has India reached since independence?

- a) Early-level industrialization
- b) High-level industrialization
- c) Middle-level industrialization
- d) Complete industrialization

Answer: c) Middle-level industrialization

Explanation: Over five decades since independence, India has reached the stage of middle-level industrialization.

Q349. Why have developing countries, particularly India, been forced to telescope the process of economic development?

- a) To compete with developed countries
- b) To reduce poverty rapidly

- c) To transition from dependent to independent economies
- d) To acquire advanced technology

Answer: c) To transition from dependent to independent economies

Explanation: Developing countries like India have had to accelerate economic development in a short span of time to transition from dependent to independent economies.

Q350. What does a country's development depend on?

- a) Economic system only
- b) Social system only
- c) Combined force of economic, political, social, and cultural systems
- d) Technological advancements

Answer: c) Combined force of economic, political, social, and cultural systems

Explanation: A country's development relies on the combined force of its economic, political, social, and cultural systems.

Q351. What must accompany technological and economic structural changes for the development process to be successful?

- a) Political reforms
- b) Conscious change in the human element
- c) New laws and regulations
- d) Increased government spending

Answer: b) Conscious change in the human element

Explanation: For the development process to be successful, there must be a conscious change in the human element alongside technological and economic changes.

Q352. What is the current impact of India's developmental processes on its population?

- a) All citizens are benefiting equally
- b) Only a segment of the population is affected
- c) The entire population has risen out of poverty
- d) Developmental processes are still in the planning stage

Answer: b) Only a segment of the population is affected

Explanation: The impact of developmental processes in India affects only a segment of the population, leaving a large portion still suffering in poverty.

Q353. What percentage of India's population is reaping the economic and social benefits of development?

- a) 10 to 20 percent
- b) 30 to 40 percent
- c) 40 to 50 percent
- d) 60 to 70 percent

Answer: c) 40 to 50 percent

Explanation: Only 40 to 50 percent of India's population is reaping the benefits of economic and social progress.

Q354. What significant societal change has resulted from economic liberalization in India?

- a) The emergence of joint families
- b) A shift towards a consumer society
- c) A decline in technological advancements
- d) Reduction in employment opportunities

Answer: b) A shift towards a consumer society

Explanation: Economic liberalization has resulted in a shift towards a consumer society in India, where even lower-income groups are exposed to affluent lifestyles.

Q355. Which factor has contributed to the rise of double-income families in India?

- a) Increased government jobs
- b) Liberalization policies
- c) Both husband and wife working
- d) Global market expansion

Answer: c) Both husband and wife working

Explanation: The rise of double-income families in India is due to both husband and wife working, which has strengthened financial stability.

Q356. What impact has the development of a consumer society in India had on household savings?

- a) It has increased household savings
- b) It has reduced household savings
- c) It has remained unchanged
- d) It has led to higher government savings

Answer: b) It has reduced household savings

Explanation: The fast development of a consumer society in India has led to reduced household savings, as more income is spent on consumer goods.

Q357. What is a potential solution to manage the impact of consumerism on India's economy?

- a) Reverting to a regulatory regime
- b) Disciplining the economy and market without regulatory control
- c) Increasing taxes on consumer goods
- d) Banning certain consumer products

Answer: b) Disciplining the economy and market without regulatory control

Explanation: To balance the impact of consumerism, it is necessary for the government to discipline the

economy and market without returning to strict regulations.

UNIT 10 INFORMATION AS AN ECONOMIC RESOURCE

Q358. Why were information and knowledge previously not considered distinct factors of production by economists?

- a) They were considered part of overheads
- b) They had no economic value
- c) They were considered too abundant to account for
- d) They were not relevant to economic growth

Answer: a) They were considered part of overheads

Explanation: Information and knowledge were previously lumped in with overheads for accounting purposes and not given special consideration as distinct factors of production.

Q359. Who made significant contributions to the specialty of information economics?

- a) Lamberton
- b) Blaise Cronin
- c) Fritz Machlup
- d) John Maynard Keynes

Answer: c) Fritz Machlup

Explanation: Fritz Machlup made significant contributions to the specialty of information economics, particularly through his work in the publication "The Economics of Information and Human Capital."

Q360. What is the main focus of information economics according to Professor Fritz Machlup's work?

- a) Analysis of financial investments
- b) Study of global trade regulations
- c) Significance of information and knowledge as factors in economic growth
- d) Review of consumer behavior and market trends

Answer: c) Significance of information and knowledge as factors in economic growth

Explanation: Information economics focuses on analyzing information and knowledge as human capital and their significance as factors in economic growth and development.

Q361. According to Lamberton, what triggered the emergence of information economics as a new specialty?

- a) Advances in computational technologies and communication
- b) Increased government intervention in business
- c) The rise of global trade
- d) Challenges in natural resource management

Answer: a) Advances in computational technologies and communication

Explanation: Lamberton suggests that the emergence of information economics as a specialty was driven by the failures of existing economic theories, government and business policies, and the advent of intelligent electronics with enhanced communication and computational capacities.

Q362. Which of the following is NOT a characteristic of information as described in information economics?

- a) Information is shareable and can be retained even when given away
- b) Information becomes depleted after extensive use
- c) Information can be expanded and increased

with use

d) Information can vary in value over time unpredictably

Answer: b) Information becomes depleted after extensive use

Explanation: Information does not get depleted with use, unlike physical resources like oil or coffee. It can be used by multiple consumers without being exhausted.

Q363. According to Blaise Cronin, how does information differ from commodities like oil or coffee?

- a) Information has a limited shelf life
- b) Information is not depleted with use
- c) Information is more expensive than oil or coffee
- d) Information cannot be commodified

Answer: b) Information is not depleted with use

Explanation: Unlike oil or coffee, information is not depleted with use and can be valuable to an infinite number of consumers.

Q364. How is information treated in economic terms according to its characteristics?

- a) As a consumable good
- b) As a compressible and expandable resource
- c) As a finite resource
- d) As a marketable product only

Answer: b) As a compressible and expandable resource

Explanation: Information is considered compressible (it can be summarized and integrated) and expandable (it increases with use).

Q365. What role does information play in relation to economic and political power?

- a) It has no significant impact
- b) It is an essential source of economic and political power
- c) It limits decision-making capabilities
- d) It reduces government control over markets

Answer: b) It is an essential source of economic and political power

Explanation: Information is regarded as a crucial source of economic and political power due to its ability to influence decision-making and strategy.

Q366. How does the value of information change over time?

- a) It remains constant
- b) It decreases predictably
- c) It varies unpredictably
- d) It increases linearly with more use

Answer: c) It varies unpredictably

Explanation: The value of information can fluctuate over time in unpredictable ways, making it a dynamic economic asset.

Q367. What methodological aspects receive special attention in the economics of information and knowledge?

- a) Government regulations
- b) Empirical research, theoretical analysis, and applied inquiry
- c) Marketing strategies and consumer behavior
- d) Commodity trading and international finance

Answer: b) Empirical research, theoretical analysis, and applied inquiry

Explanation: In information economics, empirical research, theoretical analysis, and applied inquiry are key methodological aspects.

Q368. How many subgroups did Fritz Machlup's classificatory map of information economics contain?

- a) 15
- b) 17
- c) 115
- d) 150

Answer: c) 115

Explanation: Fritz Machlup's classificatory map for information economics is divided into 115 subgroups, depicting the extensive scope of the subject.

Q369. What is the focus of the first group in Fritz Machlup's classification of information economics?

- a) Decision theory
- b) Cost and value of information
- c) Economics of knowledge and information: General
- d) Human capital and knowledge accumulation

Answer: c) Economics of knowledge and information: General

Explanation: The first group focuses on the general aspects of the economics of knowledge and information.

Q370. Which of the following is NOT one of the seventeen main groups listed by Fritz Machlup?

- a) Economic forecasting
- b) Decision making by consumers with incomplete knowledge
- c) Information overload
- d) Role of information in market functioning

Answer: c) Information overload

Explanation: Information overload is not listed as one of the main groups in Fritz Machlup's classification.

Q371. What factors are considered in explaining entrepreneurship and profit according to Fritz Machlup's classification?

- a) Innovation and imitation
- b) Risk-aversion, innovativeness, and alertness
- c) Information machines and services
- d) Uncertainty and ignorance

Answer: b) Risk-aversion, innovativeness, and alertness

Explanation: Risk-aversion, innovativeness, and alertness are key factors in the explanation of entrepreneurship and profit.

Q372. In Fritz Machlup's classification, what is the significance of new knowledge in economic growth?

- a) It increases consumer demand
- b) It leads to economic stagnation
- c) It is a factor in economic growth through invention, discovery, innovation, and imitation
- d) It leads to decreased uncertainty in markets

Answer: c) It is a factor in economic growth through invention, discovery, innovation, and imitation

Explanation: New knowledge, including invention and innovation, plays a significant role in fostering economic growth.

Q373. What is the role of prices according to Fritz Machlup's classification in information economics?

- a) To increase consumer spending
- b) To serve as an information system for resource allocation and product distribution
- c) To regulate market failures

d) To decrease decision-making time for consumers

Answer: b) To serve as an information system for resource allocation and product distribution

Explanation: Prices act as an information system in market economies and planned economies, facilitating resource allocation and product distribution.

Q374. What group in Machlup's classification focuses on the cost and value of information?

- a) Economic forecasting
- b) Decision theory
- c) Private and social information systems
- d) Human capital

Answer: c) Private and social information systems

Explanation: The group focuses on the cost and value of information in both private and social contexts, including alternative information systems.

Q375. Which of the following is considered a factor in explaining individual choices and economic phenomena according to Machlup?

- a) Consumer trends
- b) Ignorance, chance, risk, and uncertainty
- c) Technological advances
- d) Political power

Answer: b) Ignorance, chance, risk, and uncertainty

Explanation: Ignorance, chance, risk, and uncertainty are key factors in explaining individual choices and economic phenomena.

Q376. According to Machlup, decision-making by private firms with incomplete and uncertain knowledge occurs in which context?

- a) Economic policy formulation
- b) Various market positions
- c) Human capital accumulation
- d) Public sector agencies

Answer: b) Various market positions

Explanation: Decision-making by private firms with incomplete and uncertain knowledge occurs across different market positions, highlighting the uncertainty firms face in different competitive environments.

Q377. In Fritz Machlup's classification, what is the focus of the final group?

- a) Knowledge industries
- b) Decision-making in public agencies
- c) Human capital and the accumulation of knowledge and skills
- d) Role of information in technological innovation

Answer: c) Human capital and the accumulation of knowledge and skills

Explanation: The final group in Machlup's classification deals with human capital, focusing on the accumulation of knowledge and skills.

Q378. What is a major source of weakness in the study of information economics?

- a) Lack of technology
- b) Absence of reliable measures for cost, price, and value
- c) Inaccurate economic forecasts
- d) Inefficient data collection

Answer: b) Absence of reliable measures for cost, price, and value

Explanation: A continuing source of weakness in information economics is the lack of reliable measures for fundamental elements such as cost, price, and value, which are interconnected and difficult to measure.

Q379. What represents the opportunity cost in economics?

- a) The profit earned from selling goods
- b) The amount of money paid for a product
- c) The cost of foregone alternatives
- d) The total cost of production

Answer: c) The cost of foregone alternatives

Explanation: Opportunity cost refers to the cost of sacrificing one option in favor of another, such as forgoing a holiday to purchase a car.

Q380. Why is determining the value of information complex in information economics?

- a) It can only be measured with technology
- b) It is highly subjective and depends on the seeker of the information
- c) It is related to physical goods, which complicates measurement
- d) It can only be measured by government standards

Answer: b) It is highly subjective and depends on the seeker of the information

Explanation: The value of information is subjective, as it is judged by the person seeking the information, making its measurement complex.

Q381. What technological development provided new opportunities for large-scale information systems?

- a) Industrial revolution
- b) Inventions in microelectronics and the arrival of computers
- c) The invention of the printing press
- d) Increased transportation infrastructure

Answer: b) Inventions in microelectronics and the arrival of computers

Explanation: The development of microelectronics and computers allowed for massive-scale information systems and services, facilitating universal access to information.

Q382. How did the Internet and the World Wide Web contribute to knowledge development?

- a) By limiting access to information
- b) By providing unrestricted low-cost access to information and facilitating communication
- c) By focusing on local knowledge and data
- d) By replacing books and physical libraries

Answer: b) By providing unrestricted low-cost access to information and facilitating communication

Explanation: The Internet and the World Wide Web made global knowledge widely accessible at low cost and facilitated communication among peer groups.

Q383. What was the effect of the industrial revolution on the recognition of knowledge and science in economic growth?

- a) Knowledge became less important for production
- b) Science and technology were recognized as important factors for economic growth
- c) Agriculture became the dominant economic factor
- d) Economic growth slowed down due to industrialization

Answer: b) Science and technology were recognized as important factors for economic growth

Explanation: The industrial revolution highlighted the importance of science and technology (S&T) as key contributors to economic growth and prosperity.

Q384. , what lies at the root of new productivity in modern economies?

- a) Increased labor force
- b) Knowledge generation and information processing
- c) Agricultural advancements
- d) Physical capital accumulation

Answer: b) Knowledge generation and information processing

Explanation: Knowledge generation and information processing are the driving forces behind new productivity in modern economies.

Q385. What economic benefit is facilitated by investing in human capital, ?

- a) Reducing trade deficits
- b) Increasing the ability to absorb and use knowledge
- c) Enhancing government revenues
- d) Improving physical infrastructure

Answer: b) Increasing the ability to absorb and use knowledge

Explanation: Investing in human capital enhances the ability to absorb and use knowledge, which is crucial for economic growth and development.

Q386. What is one reason why the value of information is elusive and difficult to measure?

- a) It can only be measured by experts
- b) It is difficult to determine a unit of information
- c) It has no economic impact
- d) It is solely dependent on technology

Answer: b) It is difficult to determine a unit of information

Explanation: The elusive nature of measuring information lies in the difficulty of determining a unit of information and assigning a monetary value to it.

Q387. How has information and knowledge become central to economic growth in recent times?

- a) Due to the advent of advanced transportation systems
- b) Because they have become directly productive forces under current technological and social parameters
- c) Due to the reduction in global trade barriers
- d) Because they were always the primary drivers of growth throughout history

Answer: b) Because they have become directly productive forces under current technological and social parameters

Explanation: Information and knowledge have become central to economic growth and development due to recent advances in technology, making them directly productive forces.

Q388. According to the new growth theory of knowledge, what drives economic growth?

- a) Accumulation of physical capital
- b) Accumulation of knowledge
- c) Increased labor force participation
- d) Natural resource exploitation

Answer: b) Accumulation of knowledge

Explanation: The new growth theory of knowledge, supported by economists like Paul Romer, suggests that economic growth is driven by the accumulation of knowledge.

Q389. What effect does technological innovation have on economic growth according to the new growth theory?

- a) It leads to diminishing returns on investment
- b) It creates technical platforms that can lead to further innovations
- c) It slows down the growth rate
- d) It decreases the value of human capital

Answer: b) It creates technical platforms that can lead to further innovations

Explanation: Technological breakthroughs create technical platforms for further innovations, which is a key effect of economic growth according to the new growth theory.

Q390. How do new growth economists view the relationship between investment and technology?

- a) Investment decreases the value of technology
- b) Investment and technology have no significant relationship
- c) Investment can make technology more valuable, and vice versa
- d) Technology investments lead to diminishing returns

Answer: c) Investment can make technology more valuable, and vice versa

Explanation: New growth economists argue that investment in technology can enhance its value, and technology can in turn make investment more valuable, creating a virtuous circle that raises a country's growth rate.

Q391. What type of capital has grown faster in knowledge-based economies?

- a) Tangible capital (e.g., buildings, machinery)
- b) Intangible capital (e.g., education, research and development)
- c) Natural resources
- d) Physical infrastructure

Answer: b) Intangible capital (e.g., education, research and development)

Explanation: In knowledge-based economies, the net stock of intangible capital, such as education and research and development, has grown faster than tangible capital like buildings and machinery.

Q392. In the context of the new economy, what provides competitive advantage?

- a) Mass production and standardization
- b) Customization, design quality, and customer service
- c) Reduction in production costs
- d) Government regulations

Answer: b) Customization, design quality, and customer service

Explanation: In the new economy, competitive advantage increasingly stems from customization, design quality, and customer service rather than mass production.

Q393. What is a characteristic feature of jobs in a knowledge-based economy?

- a) Low-skill labor and vocational training
- b) Post-secondary, vocational, or higher education requirements
- c) Primary education with on-the-job training
- d) Physical labor in agriculture or construction

Answer: b) Post-secondary, vocational, or higher education requirements

Explanation: Knowledge-based jobs often require post-secondary, vocational, or higher education to meet the demands of a knowledge-driven economy.

Q394. What has contributed to the rise of the service sector in India's economy?

- a) Expansion of the agricultural sector
- b) Restructuring of industry to compete globally
- c) Increased government control of industries
- d) Decline in the technology sector

Answer: b) Restructuring of industry to compete globally

Explanation: Industry in India has restructured to compete globally, contributing to the steady rise of the service sector, which now accounts for 52% of India's GDP.

Q395. What is one of the main features of an information and knowledge economy?

- a) Focus on agricultural production
- b) Centrality of theoretical knowledge and its application in innovation
- c) Dependence on natural resources for growth
- d) Mass production of goods

Answer: b) Centrality of theoretical knowledge and its application in innovation

Explanation: In an information and knowledge economy, theoretical knowledge and its wise application are central to innovation and policy formulation.

Q396. How does the new economy differ from the old economy in terms of production?

- a) The new economy is based on mass production, while the old economy was focused on services
- b) The old economy was organized around mass production, while the new economy focuses on flexible production of goods and services
- c) The new economy focuses on agriculture, while the old economy focused on manufacturing
- d) The old economy relied on manual labor, while the new economy relies on unskilled labor

Answer: b) The old economy was organized around mass production, while the new economy focuses on flexible production of goods and services

Explanation: The old economy was organized around mass production, whereas the new economy emphasizes flexible production, particularly in high-tech and services sectors.

Q397. What role does human capital play in the new growth theory?

- a) It replaces traditional inputs like labor and equipment
- b) It generates ideas and knowledge, improving the efficiency of traditional inputs
- c) It focuses mainly on increasing labor productivity
- d) It slows down technological progress

Answer: b) It generates ideas and knowledge, improving the efficiency of traditional inputs

Explanation: Human capital generates the ideas and knowledge that help to efficiently translate traditional inputs, such as capital and labor, into output.

UNIT 11 INFORMATION POLICIES: NATIONAL AND INTERNATIONAL

Q398. In the current context, how is 'information' comprehended?

- a) In a narrow, technical sense
- b) In a much wider sense
- c) Only in relation to libraries and archives
- d) As a scientific concept only

Answer: b) In a much wider sense

Explanation: Information is now comprehended in a much wider sense, covering various overlapping elements and activities beyond traditional views.

Q399. Which of the following activities is included in the 'Discovery, Creation, and Collection of Information'?

- a) Printing and publishing
- b) Broadcasting and television networks
- c) Work of scientists, scholars, and raw data collectors
- d) Telecommunication equipment production

Answer: c) Work of scientists, scholars, and raw data collectors

Explanation: The discovery, creation, and collection of information involve activities like the work of scientists, scholars, authors, and raw data collectors.

Q400. What type of activities are involved in the 'Storage, Retrieval, Processing, Dissemination, and Duplicating of Information'?

- a) Postal and telegraph services
- b) Libraries, publishing industry, and data processing organizations
- c) Production of computer peripherals and telecommunication equipment
- d) Information markets in education and business

Answer: b) Libraries, publishing industry, and data processing organizations

Explanation: Activities such as those of libraries, the publishing industry, and data processing organizations fall under the category of storage, retrieval, processing, dissemination, and duplication of information.

Q401. What is included under 'Distribution of Information'?

- a) Manufacturing of telecommunication equipment
- b) Broadcasting networks, newspaper circulation, and film distribution
- c) Raw data collection and scientific research
- d) Indexing and abstracting services

Answer: b) Broadcasting networks, newspaper circulation, and film distribution

Explanation: The distribution of information includes broadcasting and television networks, newspaper circulation, and film distribution, among other communication channels.

Q402. Who are considered 'Hardware Suppliers' in the context of information activities?

- a) Libraries and archives
- b) Agencies producing goods for the hardware industry such as computers, printing presses, and telecommunication equipment
- c) Television networks and newspaper publishers
- d) Education and healthcare institutions

Answer: b) Agencies producing goods for the hardware industry such as computers, printing presses, and telecommunication equipment

Explanation: Hardware suppliers produce goods like computers, peripherals, telecommunication equipment, printing presses, and other related items.

Q403. What does the term 'Information Markets' ?

- a) Enterprises using information for education, transportation, and healthcare
- b) Libraries and bibliographic databases
- c) Hardware suppliers and equipment manufacturers
- d) Mass media and film industries

Answer: a) Enterprises using information for education, transportation, and healthcare

Explanation: Information markets include enterprises that use information hardware to support activities in sectors such as education, transportation, business, healthcare, and more.

Q404. Which of the following is NOT strictly a policy issue of information as conceived by many stakeholders or professionals?

- a) Business and trade activities
- b) Data processing and duplication
- c) Broadcasting and communication services
- d) Libraries and archives

Answer: a) **Business and trade activities**

Explanation: Business and trade activities, along with areas like commerce, education, and mass media, may not strictly fall within the ambit of policy issues related to information.

Q405. Which of the following would fall under 'Storage, Retrieval, Processing, and Disseminating Information'?

- a) **Film distributors and projectors**
- b) **Telecommunication networks**
- c) **Libraries, indexing, and abstracting agencies**
- d) **Healthcare institutions**

Answer: c) **Libraries, indexing, and abstracting agencies**

Explanation: Libraries, indexing, and abstracting agencies are involved in the storage, retrieval, processing, and dissemination of information.

Q406. What role do 'Hardware Suppliers' play in the information ecosystem?

- a) **They produce books and journals**
- b) **They manufacture goods such as computers, telecommunication equipment, and electronic sensing devices**
- c) **They provide healthcare information services**
- d) **They manage data processing organizations**

Answer: b) **They manufacture goods such as computers, telecommunication equipment, and electronic sensing devices**

Explanation: Hardware suppliers manufacture goods like computers, telecommunication equipment, and other hardware that support information activities.

Q407. What kind of enterprises are found in 'Information Markets'?

- a) **Enterprises producing hardware for information technology**
- b) **Enterprises providing information services in sectors like education, business, and healthcare**
- c) **Newspaper and television broadcasting networks**
- d) **Libraries and research institutions**

Answer: b) **Enterprises providing information services in sectors like education, business, and healthcare**

Explanation: Information markets consist of enterprises providing information services through electronic databases and networks in sectors such as education, business, and healthcare.

Q408. What is a 'Goal' in the hierarchy of policy formulation?

- a) **A temporary target to be achieved**
- b) **An enduring statement of purpose for actions over an indefinite period**
- c) **A short-term plan to implement policies**
- d) **A flexible commitment to a course of action**

Answer: b) **An enduring statement of purpose for actions over an indefinite period**

Explanation: A goal is the ultimate destination to be reached and represents an enduring statement of purpose towards actions over an indefinite period.

Q409. How is a 'Policy' defined in the context of hierarchy?

- a) **A specific tactical action to achieve a strategy**
- b) **A rigid and permanent course of action**
- c) **A statement of commitment to a generic course of action necessary to achieve the goal**
- d) **A predetermined alternative to a goal**

Answer: c) **A statement of commitment to a generic course of action necessary to achieve the goal**

Explanation: A policy is a statement of commitment to a course of action designed to achieve a goal, and it

should be flexible enough to adapt to changing environments.

Q410. What is the main characteristic of 'Policy'?

- a) It remains permanent and rigid
- b) It is transitory and adaptable to changes
- c) It has no relation to the goal
- d) It is always a short-term action plan

Answer: b) It is transitory and adaptable to changes

Explanation: Policies are transitory and cannot remain rigid. They need to be flexible enough to adapt to political, economic, social, and cultural changes.

Q411. What does a 'Strategy' refer to in policy hierarchy?

- a) A final decision without alternatives
- b) A predetermined course of action selected from alternatives
- c) An agreement to follow a policy indefinitely
- d) An unplanned response to unforeseen circumstances

Answer: b) A predetermined course of action selected from alternatives

Explanation: A strategy is a predetermined course of action, usually selected from various alternatives, and formulated by considering political, legal, and administrative realities.

Q412. How are 'Strategies' typically formulated?

- a) Without any alternatives or options
- b) Through a process of planning that considers political, legal, and administrative realities
- c) By focusing only on social factors
- d) By reacting to immediate situations without planning

Answer: b) Through a process of planning that considers political, legal, and administrative realities

Explanation: Strategies are formulated through planning, taking into account political, legal, and administrative realities.

Q413. What is a 'Program' in the hierarchy?

- a) A statement of commitment to a course of action
- b) A set of tactical actions for goal-seeking based on a strategy
- c) An alternate option for achieving the goal
- d) A flexible statement without any predetermined strategy

Answer: b) A set of tactical actions for goal-seeking based on a strategy

Explanation: A program refers to a scheduled set of tasks or activities taken to implement a strategy and requires specific planning, budgeting, and organizational attention.

Q414. What role does a 'Program' play in policy formulation?

- a) It represents the final goal to be achieved
- b) It sets the vision without any concrete actions
- c) It consists of tactical actions that implement the strategy
- d) It is the same as the policy

Answer: c) It consists of tactical actions that implement the strategy

Explanation: A program is a set of tactical actions designed to implement a strategy and help achieve the overarching goal.

Q415. Which of the following best describes the difference between a 'Policy' and a 'Strategy'?

- a) A policy is long-term, while a strategy is short-term
- b) A strategy is a predetermined course of action, while a policy is a statement of commitment to a generic course of action
- c) A policy focuses on legal aspects, while a strategy focuses on economic aspects
- d) A policy is permanent, while a strategy is flexible

Answer: b) A strategy is a predetermined course of action, while a policy is a statement of commitment to a generic course of action

Explanation: A policy is a statement of commitment to a course of action, whereas a strategy is a predetermined course of action selected from various alternatives to achieve the policy's objectives.

Q416. Which component of the hierarchy requires planning, budgeting, and organizational attention?

- a) Policy
- b) Strategy
- c) Goal
- d) Program

Answer: d) Program

Explanation: A program involves specific planning, budgeting, and organizational attention to carry out the tactical actions necessary to implement a strategy.

Q417. What distinguishes a 'Goal' from a 'Program'?

- a) A goal is a set of tactical actions, while a program is the ultimate destination
- b) A program involves planning, while a goal is an overarching purpose
- c) A program is flexible, while a goal is rigid
- d) A goal requires budgeting, while a program does not

Answer: b) A program involves planning, while a goal is an overarching purpose

Explanation: A goal is the ultimate purpose or destination, while a program is a set of tactical actions that require specific planning to achieve that goal.

Q418. What is a 'National Information Policy' according to UNISIST II?

- a) A set of decisions made by private corporations to regulate information flow
- b) A set of decisions taken by a government to guide the development of information transfer activities to meet a country's needs
- c) A legal document ensuring free information exchange across all countries
- d) A financial policy to support technological advancements

Answer: b) A set of decisions taken by a government to guide the development of information transfer activities to meet a country's needs

Explanation: A National Information Policy is defined by UNISIST II as a set of decisions made by the government to develop information transfer activities to meet the information needs of the country, supported by financial, personnel, and institutional resources.

Q419. In the context of the information society, what becomes the central base for economic power?

- a) Land and agriculture
- b) Manufacturing and machinery
- c) Knowledge and technical skills
- d) Military and political influence

Answer: c) Knowledge and technical skills

Explanation: In an information society, knowledge and technical skills become the central base,

contributing significantly to economic and political power.

Q420. What are the main features of a pre-industrial society according to Table 11.1?

- a) Business firms and machinery
- b) Knowledge and research institutions
- c) Land, military force, and property-based power
- d) Technical skills and indirect political influence

Answer: c) Land, military force, and property-based power

Explanation: A pre-industrial society is characterized by land as the primary resource, with social forces like farming and military power, and property-based control of power.

Q421. Which social force becomes dominant in a post-industrial society?

- a) Military forces
- b) Business firms
- c) University and R&D institutions
- d) Landowners

Answer: c) University and R&D institutions

Explanation: In a post-industrial society, universities and R&D institutions become the dominant social forces, with knowledge being the central resource.

Q422. How does the source of power change from a pre-industrial to post-industrial society?

- a) From landownership to technical skills and political organizations
- b) From business firms to military influence
- c) From technical skills to property ownership
- d) From education to seizure by the army

Answer: a) From landownership to technical skills and political organizations

Explanation: The source of power in a post-industrial society shifts from land and military control to technical skills and organized political forces.

Q423. How does access to power evolve in a post-industrial society?

- a) Through inheritance and seizure by the military
- b) Through education and cooperation
- c) Through political patronage only
- d) Through direct control by force

Answer: b) Through education and cooperation

Explanation: In a post-industrial society, access to power is achieved through education, mobilization, and cooperation, unlike the inheritance and military force seen in earlier societies.

Q424. Why is human resource planning crucial in post-industrial societies?

- a) To maintain control over land resources
- b) To support military efforts
- c) To provide knowledge and information needed for transforming natural resources into wealth
- d) To reduce the need for education and technical skills

Answer: c) To provide knowledge and information needed for transforming natural resources into wealth

Explanation: In post-industrial societies, human resource planning focuses on developing knowledge and information to transform natural resources into wealth, which is vital for economic progress.

Q425. What role do private companies play in the post-industrial economy?

- a) They depend primarily on land resources
- b) They thrive by focusing on military control
- c) They depend on new knowledge and

information to stay competitive

d) They rely on traditional production methods

Answer: c) They depend on new knowledge and information to stay competitive

Explanation: Private companies in post-industrial societies increasingly rely on new knowledge, patents, processes, and information to stay competitive and flourish in the business environment.

Q426. What is 'Knowledge Management' in the context of corporate sectors?

a) Managing traditional resources like land and machinery

b) A process to suppress the dissemination of information

c) A subject focusing on the development, dissemination, and use of knowledge within businesses

d) A system for maintaining military control

Answer: c) A subject focusing on the development, dissemination, and use of knowledge within businesses

Explanation: Knowledge Management refers to the process within corporate sectors that focuses on the development, dissemination, and strategic use of knowledge for business growth and innovation.

Q427. Why is R&D dissemination important in an information society?

a) To restrict access to knowledge within a company

b) To validate new knowledge through peer community review

c) To replace education as a source of power

d) To prevent competition from gaining new knowledge

Answer: b) To validate new knowledge through peer community review

Explanation: The dissemination of R&D results is crucial in an information society as it allows new knowledge to be reviewed, accepted, and validated by the broader peer community, contributing to progress.

Q428. What is essential for the development of a country's information transfer process?

a) Rigid policies that do not adapt to change

b) The creation of a military-based control system

c) Formulation of an appropriate information policy

d) Focus on traditional resource-based industries

Answer: c) Formulation of an appropriate information policy

Explanation: For a country's information transfer process to develop effectively, it is essential to formulate a well-structured information policy that supports progress in knowledge and information transfer.

Q429. What has been the primary focus of user studies so far?

a) Assessment of user needs in the context of business and marketing

b) Assessment of needs in the context of education, research, and R&D environments

c) Assessing the needs of users in entertainment industries

d) Evaluating user preferences in social media usage

Answer: b) Assessment of needs in the context of education, research, and R&D environments

Explanation: User studies have largely focused on assessing needs in education, research, and R&D environments, with fewer studies assessing users in other contexts, especially in India.

Q430. Why is there a need for institutions specifically devoted to user studies?

- a) To create marketing campaigns for information services
- b) To assess gaps in gathering information, expressed needs, and specific requirements of information
- c) To develop new formats for multimedia content
- d) To replace traditional market research agencies

Answer: b) To assess gaps in gathering information, expressed needs, and specific requirements of information

Explanation: Institutions focused on user studies can assess gaps in information gathering, expressed needs, and other factors, helping design information systems and programs based on user needs.

Q431. What are the two broad categories of information resources mentioned?

- a) Primary and secondary resources
- b) Printed and digital resources
- c) Documents and non-documents
- d) Published and unpublished information

Answer: c) Documents and non-documents

Explanation: Information resources are broadly categorized as documents and non-documents, covering both published and unpublished records across various formats.

Q432. What types of information do primary sources include?

- a) Only books and newspapers
- b) Primarily legal documents and financial records
- c) Indigenously published materials like books, journals, and unpublished research reports
- d) Social media content and user-generated data

Answer: c) Indigenously published materials like books, journals, and unpublished research reports

Explanation: Primary information includes indigenously published books, journals, technical reports, theses, and other materials that may not always be accessible due to the absence of legal deposit provisions.

Q433. What legislation governs the deposit of indigenously published materials like books and journals in India?

- a) The Information Rights Act 1956
- b) The Delivery of Books Act 1956
- c) The National Information Policy Act
- d) The Copyright Act 1960

Answer: b) The Delivery of Books Act 1956

Explanation: The Delivery of Books Act 1956 mandates the deposit of indigenously published materials like books and journals in four libraries in India.

Q434. What challenges exist in collecting unpublished materials such as theses and research reports?

- a) They are protected by copyright and cannot be accessed
- b) There is no provision for legal deposit, making collection difficult
- c) They are always available online for free
- d) They are irrelevant to most institutions

Answer: b) There is no provision for legal deposit, making collection difficult

Explanation: Collecting unpublished materials such as theses and research reports is challenging because there is no legal deposit provision, making it difficult for institutions to access them.

Q435. What is a major source of valuable information not commonly found in service libraries?

- a) Social media and blogs
- b) Television and radio broadcasts
- c) Films, videos, and audios
- d) Government documents

Answer: c) Films, videos, and audios

Explanation: Valuable information carried through films, videos, and audios is often not found in service libraries because their existence and availability are not well-known.

Q436. What is one of the challenges in acquiring foreign information resources?

- a) There is an oversupply of foreign materials
- b) Foreign materials are irrelevant to local research
- c) The acquisition of foreign information is complex due to import difficulties
- d) Foreign information is freely available and needs no formal acquisition

Answer: c) The acquisition of foreign information is complex due to import difficulties

Explanation: The acquisition of foreign information resources is complicated by various import-related complexities, posing challenges for institutions that need these materials.

Q437. How can the problems related to information resource building be addressed at a national level?

- a) By creating new private organizations to handle imports
- b) Through the formulation of a National Information Policy
- c) By reducing access to foreign information
- d) By depending solely on published resources

Answer: b) Through the formulation of a National Information Policy

Explanation: A National Information Policy is essential to address problems related to information resource building, ensuring access to recorded knowledge and information at a national level.

Q438. Why is it important to collect unpublished research and technical reports?

- a) They provide entertainment content
- b) They are essential for international trade
- c) They contribute valuable information for research and development
- d) They are easier to distribute than published books

Answer: c) They contribute valuable information for research and development

Explanation: Unpublished research and technical reports contain valuable information that can significantly contribute to research and development efforts in various fields.

Q439. What significant legislative act is likely to lead to the development of new types of information institutions?

- a) The Information Technology Act 2000
- b) The Right to Education Act 2009
- c) The Freedom of Information Act 2002
- d) The Patent Act 1970

Answer: c) The Freedom of Information Act 2002

Explanation: The Freedom of Information Act 2002 is expected to lead to the development of various types of information systems and services networks, potentially creating new information institutions.

Q440. How can a proper grid of information institutions be conceived and implemented?

- a) Through private sector initiatives
- b) By developing local information policies
- c) Through a National Information Policy
- d) By reducing investment in information technology

Answer: c) Through a National Information Policy

Explanation: A proper grid of information institutions can be conceived and implemented only through the formulation of a comprehensive National Information Policy.

Q441. Which Indian leader recognized the importance of scientific knowledge and information as early as 1957?

- a) Mahatma Gandhi
- b) Dr. B. R. Ambedkar
- c) Pandit Jawaharlal Nehru
- d) Sardar Vallabhbhai Patel

Answer: c) Pandit Jawaharlal Nehru

Explanation: Pandit Jawaharlal Nehru emphasized the importance of new scientific knowledge in his Scientific Policy Resolution of 1958, recognizing its role in national development.

Q442. What was a significant development in the 1970s related to national information systems in India?

- a) The establishment of the Indian Space Research Organization (ISRO)
- b) The creation of the National Informatics Center (NIC) and NISSAT
- c) The formulation of the National Digital Library
- d) The introduction of the Information Technology Act

Answer: b) The creation of the National Informatics Center (NIC) and NISSAT

Explanation: The National Informatics Center (NIC) and the National Information System for Science and Technology (NISSAT) were significant developments in the 1970s related to national information systems in India.

Q443. What initiative was taken by the University Grants Commission (UGC) to improve library services in India?

- a) Setting up the National Digital Library
- b) Establishing DELNET for university libraries
- c) Creating the Information and Library Network (INFLIBNET)
- d) Formulating the National Book Trust

Answer: c) Creating the Information and Library Network (INFLIBNET)

Explanation: The University Grants Commission (UGC) set up the Information and Library Network (INFLIBNET) to link the resources of libraries in universities and R&D institutions and facilitate new library services in India.

Q444. Which library networks were established to integrate resources and services of libraries in major Indian cities?

- a) National Library Network and State Library Network
- b) DELNET and CALIBNET
- c) INFLIBNET and e-ShodhSindhu
- d) National Knowledge Network and e-Granthalaya

Answer: b) DELNET and CALIBNET

Explanation: The Delhi Library Network (DELNET) and Calcutta Library Network (CALIBNET) were set up to integrate the resources and services of libraries in major cities in India.

Q445. Which organizations have been urging the government to initiate efforts towards formulating a National Information Policy?

- a) Private corporations and MNCs
- b) Government research bodies
- c) Professional associations like ILA, IASLIC, and SIS
- d) International organizations like UNESCO

Answer: c) Professional associations like ILA, IASLIC, and SIS

Explanation: Professional associations such as the Indian Library Association (ILA), the Indian Association of Special Libraries and Information Centers (IASLIC), and the Society for Information Science (SIS) have been urging the government to initiate efforts toward formulating a National Information Policy.

Q446. What year did the Indian Library Association, and the Raja Rammohun Roy Library Foundation submit draft policy statements to the Government of India?

- a) 1975
- b) 1984
- c) 1995
- d) 2001

Answer: b) 1984

Explanation: The Indian Library Association and the Raja Rammohun Roy Library Foundation submitted draft policy statements to the Government of India in 1984, urging the formulation of a National Information Policy.

Q447. Who chaired the committee set up by the Department of Culture in 1984 for the formulation of a National Policy for a Library and Information System?

- a) Dr. S. R. Ranganathan
- b) Prof. Chattopadhyay
- c) Dr. H. K. Kaul
- d) Dr. B. K. Sen

Answer: b) Prof. Chattopadhyay

Explanation: The Department of Culture set up a committee in 1984 under the chairmanship of Prof. Chattopadhyay for the formulation of a National Policy for a Library and Information System.

Q448. In which year did the Committee submit the Draft Policy on the Library Information System?

- a) 1984
- b) 1986
- c) 1990
- d) 2000

Answer: b) 1986

Explanation: The Committee submitted a Draft Policy on the Library Information System in May 1986, which consisted of ten chapters dealing with various elements relevant to library and information systems.

Q449. What are some of the topics covered in the ten chapters of the Draft Policy on Library Information System?

- a) Public Library System, Bibliographical Services, Manpower Development
- b) Freedom of Information Act, Patents, Copyright
- c) Library Cataloging, Dewey Decimal System, Subject Classification
- d) User Studies, Marketing Research, Sales Strategies

Answer: a) Public Library System, Bibliographical Services, Manpower Development

Explanation: The ten chapters of the Draft Policy on Library Information System cover elements like the Public Library System, Bibliographical Services,

Manpower Development, Modernization of Library and Information System, and other relevant topics.

Q450. Which two significant events of far-reaching implications occurred in the last ten years before the draft policy was submitted?

- a) Enactment of the Information Technology Act and setting up of e-Governance Task Force
- b) Enactment of the Freedom of Information Act 2002 and setting up of the Information Technology Action Plan Task Force in 1998
- c) Setting up the National Knowledge Network and the National Digital Library
- d) Establishment of NASSCOM and NIC

Answer: b) Enactment of the Freedom of Information Act 2002 and setting up of the Information Technology Action Plan Task Force in 1998

Explanation: The two significant events were the enactment of the Freedom of Information Act 2002 and the setting up of the Information Technology Action Plan Task Force in 1998.

Q451. What is the basis of the Freedom of Information Act 2002 in relation to human rights?

- a) It is based on international trade agreements
- b) It stems from the recognition of the fundamental principle of human rights, particularly freedom of expression
- c) It is part of the national security framework
- d) It focuses on the protection of intellectual property rights

Answer: b) It stems from the recognition of the fundamental principle of human rights, particularly freedom of expression

Explanation: The Freedom of Information Act 2002 stems from the recognition of the fundamental principle of human rights, particularly the right to

information, which is guaranteed in international law as part of freedom of expression.

Q452. Which international covenant guarantees the right to information as part of freedom of expression?

- a) The International Covenant on Economic, Social and Cultural Rights
- b) The International Covenant on Civil and Political Rights
- c) The Universal Declaration of Human Rights
- d) The International Covenant on Trade and Development

Answer: b) The International Covenant on Civil and Political Rights

Explanation: The right to information is guaranteed as part of freedom of expression in the International Covenant on Civil and Political Rights.

Q453. When was the Indian Freedom of Information Bill passed into law?

- a) 1998
- b) 2000
- c) 2002
- d) 2005

Answer: c) 2002

Explanation: The Indian Freedom of Information Bill was passed into law in December 2002 after several years of public debate and the enactment of freedom of information laws in various states.

Q454. What was one of the main objectives of the Information Technology Action Plan Task Force set up in 1998?

- a) To draft policies for the modernization of libraries
- b) To create an information grid for rural

development

- c) To promote the use of information technology in national development
- d) To increase import-export of information products

Answer: c) To promote the use of information technology in national development

Explanation: The Information Technology Action Plan Task Force set up in 1998 was aimed at promoting the use of information technology for national development and modernization.

Q455. How does the Act define information?

- a) Material in any form related to the public authority's financial status
- b) Material in any form relating to the administration, operation, or decisions of a public authority
- c) Material related to private organizations funded by the public authority
- d) Material related to the social interactions of the public authority

Answer: b) Material in any form relating to the administration, operation, or decisions of a public authority

Explanation: The Act defines information as "material in any form relating to the administration, operation, or decisions of a public authority," limiting the scope to the official work of the public authority.

Q456. What is the definition of a record according to the Act?

- a) Any document, microfilm, or microfiche
- b) Any audio or video material only
- c) Documents and materials related to the public authority's financials
- d) Any physical objects belonging to the public authority

Answer: a) Any document, microfilm, or microfiche

Explanation: The Act defines a record as any document, microfilm, microfiche, or any material reproduced by any device.

Q457. What does the Act classify as a 'public authority'?

- a) Any private company with over 50 employees
- b) Anybody owned, controlled, or substantially financed by the government
- c) Any public entity involved in international trade
- d) Any institution involved in healthcare services

Answer: b) Anybody owned, controlled, or substantially financed by the government

Explanation: The Act defines 'public authority' as anybody established under the Constitution or any law, or any entity "owned, controlled or substantially financed by funds provided directly or indirectly" by the government.

Q458. What was the purpose of the National Task Force on Information Technology and Software Development established in 1988?

- a) To develop IT policies for private sectors
- b) To promote IT infrastructure and boost software development in India
- c) To create new internet regulations for businesses
- d) To regulate the export of hardware and software

Answer: b) To promote IT infrastructure and boost software development in India

Explanation: The National Task Force on Information Technology and Software Development was constituted to address bottleneck areas and boost ICT

development in India, with a focus on infrastructure, software exports, and manpower training.

Q459. Which national campaign was recommended to spread computer literacy and ICT use in education?

- a) Digital India
- b) **OPERATION KNOWLEDGE**
- c) India Tech Mission
- d) Skill India

Answer: b) OPERATION KNOWLEDGE

Explanation: The Task Force recommended the launch of "OPERATION KNOWLEDGE," a national campaign aimed at universalizing computer literacy and spreading the use of computers and ICT in education.

Q460. What is a notable feature of the Task Force recommendations on information technology?

- a) Promoting IT in large cities only
- b) **Giving information technology a pro-people and pro-development focus**
- c) Focusing exclusively on software development
- d) Supporting foreign IT firms over Indian startups

Answer: b) Giving information technology a pro-people and pro-development focus

Explanation: The recommendations emphasize a pro-people and pro-development approach, aiming to spread IT benefits to rural areas and small towns, and encourage the use of Indian languages in IT.

Q461. Which three principles are emphasized by the Information Technology Action Plan for India's progress in the global knowledge-driven society?

- a) Automation, centralization, and regulation
- b) **Competition, entrepreneurship, and innovation**

- c) **Outsourcing, decentralization, and efficiency**
- d) **Standardization, integration, and control**

Answer: b) Competition, entrepreneurship, and innovation

Explanation: The Information Technology Action Plan emphasizes competition, entrepreneurship, and innovation as key principles for India's progress in the emerging global knowledge-driven society.

Q462. What is expected to be addressed in the National Informatics Policy?

- a) Only software development guidelines
- b) **All the recommendations of the Task Force**
- c) Hardware manufacturing processes
- d) Telecommunication standards

Answer: b) All the recommendations of the Task Force

Explanation: The National Informatics Policy is expected to deal with all the recommendations of the Task Force, which cover a wide range of issues such as ICT infrastructure, education, and software development.

Q463. Which three international bodies have been involved in developing library and information activities for more than half a century?

- a) UNESCO, IFLA, and IFLA UBC
- b) UNESCO, FID, and UAP
- c) **UNESCO, IFLA, and FID**
- d) UNESCO, UBC, and Cyberspace

Answer: c) UNESCO, IFLA, and FID

Explanation: UNESCO (an international governmental body), IFLA (International Federation of Library Associations and Institutions), and FID (International Federation of Information and Documentation) have been actively involved in developing library and information activities in member countries for more than 50 years.

Q464. What was the objective of the Universal Availability of Publications (UAP) Program initiated by IFLA?

- a) To create metadata standards for global publications
- b) To provide the widest possible availability of published materials in any format to users
- c) To assist in formulating national information policies
- d) To provide technical assistance for publishing online journals

Answer: b) To provide the widest possible availability of published materials in any format to users

Explanation: The UAP Program, supported by UNESCO, aimed to provide the widest possible availability of published materials in any format to users, as an essential element of economic, social, educational, and personal activities.

Q465. What major developments began to shape information systems and services with the advent of ICT and the evolution of the Information Society?

- a) The creation of national libraries and online education
- b) A total reexamination of structures and functions of information systems and services
- c) A decline in the relevance of printed publications
- d) The introduction of copyright reforms

Answer: b) A total reexamination of structures and functions of information systems and services

Explanation: With the advent of ICT and the Information Society, there was a need to completely reexamine the structures and functions of information systems and services at both national and international levels.

Q466. What document did FID prepare for UNESCO in 1990, and what was its purpose?

- a) A guide for digital library systems to promote global collaboration
- b) A Handbook on the formulation, approval, implementation, and operation of National Information Policies
- c) A report on the advantages of cyberspace for national development
- d) A strategic plan for building global library networks

Answer: b) A Handbook on the formulation, approval, implementation, and operation of National Information Policies

Explanation: FID prepared a Handbook for UNESCO in 1990 to help policy-level officers in member states understand and address the challenges and opportunities presented by the rapidly evolving ideas of the Information Superhighway, Cyberspace, and the Information Society.

Q467. How was the 1990 Handbook by FID revised in 2000?

- a) It was expanded to include guidelines on library cataloging
- b) It was updated by Victor Montviloff to reflect the latest developments in ICT
- c) It was revised to focus exclusively on digital libraries
- d) It included new chapters on metadata and digital copyright laws

Answer: b) It was updated by Victor Montviloff to reflect the latest developments in ICT

Explanation: The Handbook was revised and updated in 2000 by Victor Montviloff to reflect the rapid developments in ICT and to serve as a practical tool for guiding national information policy formulation.

Q468. What are the three paradigms that have been changing every aspect of information and knowledge, as mentioned in the handbook?

- a) Library systems, publishing networks, and electronic databases
- b) The Information Superhighway, Cyberspace, and the Information Society
- c) Telecommunications, digital publishing, and cloud storage
- d) Electronic media, online education, and internet governance

Answer: b) The Information Superhighway, Cyberspace, and the Information Society

Explanation: The three paradigms mentioned in the handbook are the Information Superhighway, Cyberspace, and the Information Society, which have significantly changed how information and knowledge are managed and disseminated.

Q469. What is the Information Superhighway according to the handbook?

- a) A virtual space where data flows freely between users
- b) The physical and technical network of information connected through the Internet
- c) A conceptual framework for managing digital rights
- d) A policy document for managing online libraries

Answer: b) The physical and technical network of information connected through the Internet

Explanation: The Information Superhighway is described as the physical and technical network (Internet) of information, connected through millions of personal computers, where information is stored and accessed via World Wide Web sites.

Q470. What is Cyberspace as defined in the handbook?

- a) A physical space where electronic devices are stored
- b) A virtual area where data, files, and media are exchanged between computers and users
- c) A legal framework for governing internet transactions
- d) A cloud-based system for backing up digital resources

Answer: b) A virtual area where data, files, and media are exchanged between computers and users

Explanation: Cyberspace is defined as a conceptual and virtual area where data, files, images, text, and other media travel back and forth between computers and users.

Q471. What does the concept of Information Society highlight?

- a) Information is the primary force driving economic and social development
- b) The growing importance of cloud computing for libraries
- c) The need for legal reforms in digital copyright laws
- d) The decline of physical libraries due to digital resources

Answer: a) Information is the primary force driving economic and social development

Explanation: The concept of Information Society emphasizes that information is the key force driving all other forces in developing material benefits and advancements for human societies.

Q472. How is the handbook structured to assist governments in addressing national information policy challenges?

- a) It includes case studies on digital libraries
- b) It is divided into two main parts: an introduction and a detailed methodology
- c) It focuses on the importance of international collaboration for library services
- d) It contains chapters on financial planning for information systems

Answer: b) It is divided into two main parts: an introduction and a detailed methodology

Explanation: The handbook is structured into two main parts: the introduction provides key definitions and context, and the second part details the step-by-step methodology to help governments cope with national information policy challenges.

UNIT 12 INFORMATION INFRASTRUCTURE: NATIONAL AND GLOBAL

Q473. What is the principle of switching in telecommunications networks?

- a) The use of dedicated circuits for communication
- b) The ability to establish a connection between two chosen ends by turning on switches
- c) The process of routing data without establishing a direct connection
- d) The continuous transfer of data without interruptions

Answer: b) The ability to establish a connection between two chosen ends by turning on switches

Explanation: The principle of switching refers to establishing a connection between two endpoints by turning on one or more switches, allowing communication to occur.

Q474. What is circuit switching in telephone networks?

- a) A technique where computers communicate without a dedicated path

- b) A method where a path and associated resources remain dedicated for the entire duration of communication
- c) A process of transferring data in bursts without continuous connection
- d) A technique where communication paths change dynamically during a call

Answer: b) A method where a path and associated resources remain dedicated for the entire duration of communication

Explanation: In circuit switching, a communication path is established and remains dedicated between the source and destination for the entire duration of the information transfer.

Q475. How does data traffic differ from voice traffic in telephone networks?

- a) Data traffic is continuous, while voice traffic is bursty
- b) Data traffic is bursty, while voice traffic is continuous
- c) Both data and voice traffic are bursty in nature
- d) Both data and voice traffic are continuous

Answer: b) Data traffic is bursty, while voice traffic is continuous

Explanation: Data traffic is bursty, meaning it occurs in bursts rather than continuously. In contrast, voice traffic is typically continuous.

Q476. What is packet switching?

- a) A technique where data is transferred continuously through a dedicated circuit
- b) A method where data is divided into packets and sent independently to the destination
- c) A process of establishing a connection before sending data
- d) A method for maintaining a constant connection between two computers

Answer: b) A method where data is divided into packets and sent independently to the destination

Explanation: Packet switching divides data into smaller packets, which are then sent independently and reassembled at the destination. This technique suits bursty data traffic.

Q477. What role does the Internet play in data networks?

- a) It is a completely separate network from data networks
- b) It serves as an application-oriented network built over the infrastructure of data networks
- c) It is a telecommunication network that functions without the use of computers
- d) It connects only telephone networks globally

Answer: b) It serves as an application-oriented network built over the infrastructure of data networks

Explanation: The Internet is an application-oriented network that was built on top of the existing infrastructure of data networks, allowing computers worldwide to connect and communicate.

Q478. What system was introduced to manage names and addresses of computers connected to the Internet?

- a) Internet Protocol Version 6 (IPv6)
- b) Circuit Switching System
- c) Domain Name System (DNS)
- d) Universal Switching Protocol

Answer: c) Domain Name System (DNS)

Explanation: The Domain Name System (DNS) was introduced to manage and resolve the names and addresses of computers connected to the Internet, enabling users to connect to remote machines easily.

Q479. Why is the Internet running out of address space under IPv4?

- a) The limited number of Internet Protocol addresses has led to serious wastage of address space
- b) IPv4 was not designed for global use
- c) The rise of wireless communication has consumed all available addresses
- d) IPv4 addresses are not compatible with modern communication devices

Answer: a) The limited number of Internet Protocol addresses has led to serious wastage of address space

Explanation: IPv4 uses a 32-bit address system, providing approximately 4 billion unique addresses. However, the way the address space is structured has resulted in significant wastage, leading to the depletion of available addresses.

Q480. What is the primary benefit of Internet Protocol Version 6 (IPv6) compared to IPv4?

- a) IPv6 allows faster data transfer
- b) IPv6 supports a larger address space with 128-bit addresses
- c) IPv6 improves wireless communication between devices
- d) IPv6 enables better encryption for data transfer

Answer: b) IPv6 supports a larger address space with 128-bit addresses

Explanation: IPv6 uses a 128-bit address system, significantly expanding the available address space compared to IPv4's 32-bit system, which is critical as IPv4 addresses are running out.

Q481. When is IPv6 expected to replace IPv4 globally?

- a) In the next 1-2 decades
- b) In the next 1-2 years

- c) It has already fully replaced IPv4
- d) It will never replace IPv4

Answer: a) In the next 1-2 decades

Explanation: IPv6 is expected to gradually replace IPv4 worldwide over the next one or two decades as more devices and networks transition to using the new protocol.

Q482. What problem did the rapid expansion of the Internet introduce?

- a) Increased data corruption due to overload
- b) Issues related to scale, particularly the management of names and unique addresses
- c) Difficulty in establishing stable connections between networks
- d) Incompatibility between IPv4 and IPv6 protocols

Answer: b) Issues related to scale, particularly the management of names and unique addresses

Explanation: The rapid expansion of the Internet introduced challenges related to scale, especially the management of names and unique addresses for all connected computers.

Q483. Why was the concept of multi-services networks developed?

- a) To simplify data communication protocols
- b) To reduce the high costs of maintaining separate telephone and data networks
- c) To enhance the security of telecommunication networks
- d) To increase the speed of voice communications only

Answer: b) To reduce the high costs of maintaining separate telephone and data networks

Explanation: The management and maintenance of separate telephone and data networks were becoming expensive, leading to the development of multi-

services networks that could carry many types of services.

Q484. What is the core idea behind multi-services networks?

- a) The digital representation of various information signals like voice, video, or data
- b) The use of analog signals for all types of communications
- c) The separation of different services into distinct physical networks
- d) The exclusive focus on data transmission over other services

Answer: a) The digital representation of various information signals like voice, video, or data

Explanation: Multi-services networks are based on the idea that if all signals (voice, video, data) are in digital form, a single network can transport these digital signals and offer multiple services.

Q485. What are the Integrated Services Digital Network (ISDN)?

- a) A multi-services network capable of carrying only voice services
- b) A network designed to carry multimedia services like voice, data, video, and facsimile
- c) A network that focuses solely on video transmission
- d) A traditional telephone network with analog signals

Answer: b) A network designed to carry multimedia services like voice, data, video, and facsimile

Explanation: ISDN is a multi-services network capable of carrying various multimedia services, including voice, data, video, and facsimile.

Q486. What is the minimum and maximum capacity of ISDN at the customer premises as envisioned in 1984?

- a) 64 kbps and 1024 kbps
- b) 128 kbps and 4096 kbps
- c) 144 kbps and 2048 kbps
- d) 512 kbps and 2048 kbps

Answer: c) 144 kbps and 2048 kbps

Explanation: ISDN, as envisioned in 1984, provides for a minimum capacity of 144 kbps and a maximum of 2048 kbps at the customer premises.

Q487. What is Broadband ISDN (B-ISDN)?

- a) An older version of ISDN with lower data transfer speeds
- b) An improved version of ISDN designed to handle higher data rates
- c) A network used solely for telephone services
- d) A technology unrelated to multimedia services

Answer: b) An improved version of ISDN designed to handle higher data rates

Explanation: B-ISDN is a broadband version of ISDN designed to handle higher data rates to accommodate the needs of modern multimedia services.

Q488. What switching technique is used in Broadband ISDN (B-ISDN)?

- a) Packet switching
- b) Circuit switching
- c) Cell switching
- d) Frame switching

Answer: c) Cell switching

Explanation: B-ISDN uses cell switching, a technique suited for a variety of services, including real-time audio and video transmissions.

Q489. What is Asynchronous Transfer Mode (ATM) in the context of B-ISDN?

- a) A real-time communication protocol for voice-only services
- b) A transfer mode designed for continuous audio communication only
- c) A transfer mode that supports a variety of services, including real-time audio and video transmissions
- d) A method of transferring data that requires synchronous timing between sender and receiver

Answer: c) A transfer mode that supports a variety of services, including real-time audio and video transmissions

Explanation: ATM is an information transfer mode in B-ISDN that supports various services, including real-time audio and video transmissions.

Q490. What differentiates cell switching in B-ISDN from cellular communication in mobile systems?

- a) Cell switching is used for data transfer, while cellular communication is for voice only
- b) Cell switching refers to switching small data packets, while cellular communication involves mobile voice communication
- c) Both techniques are the same and used interchangeably
- d) Cell switching is used only in mobile systems, while cellular communication is used for broadband services

Answer: b) Cell switching refers to switching small data packets, while cellular communication involves mobile voice communication

Explanation: Cell switching in B-ISDN is used to transfer small data packets, whereas cellular communication refers to voice and data transmission in mobile networks.

Q491. What concept is driving the evolution of intelligent networks?

- a) The exclusive use of packet switching for all services
- b) The large-scale use of computers combined with powerful signalling networks
- c) The focus on single-service networks for specialized communication
- d) The introduction of analog systems in mobile networks

Answer: b) The large-scale use of computers combined with powerful signaling networks

Explanation: The evolution of intelligent networks is driven by the large-scale use of computers and the development of powerful signaling networks, which enable networks to be adaptive, resourceful, and intelligent.

Q492. What is an example of the capabilities of intelligent networks?

- a) Sending data in real-time only in English
- b) Translating a telephone conversation in real time between different languages
- c) Making video calls without the need for digital networks
- d) Providing internet services without a connection to a data network

Answer: b) Translating a telephone conversation in real time between different languages

Explanation: An example of intelligent networks' capabilities is real-time machine translation, where a telephone conversation in one language can be heard in a different language at the receiver's end.

Q493. What are the five main issues concerning NEIS?

- a) Connectivity, Capacity, Content, Culture, and Cost

- b) Connectivity, Competition, Content, Culture, and Collaboration
- c) Cost, Culture, Communication, Collaboration, and Connectivity
- d) Content, Capacity, Communication, Cost, and Convenience

Answer: a) Connectivity, Capacity, Content, Culture, and Cost

Explanation: The five main issues related to NEIS are characterized by the five 'Cs': Connectivity, Capacity, Content, Culture, and Cost.

Q494. What is tele density used to measure?

- a) The percentage of a country's population connected to the internet
- b) The number of teleconnections per hundred people in the population
- c) The total number of internet users in a country
- d) The number of telephone connections per household

Answer: b) The number of teleconnections per hundred people in the population

Explanation: Tele density is a parameter used to express the connectivity level in a country, indicating the number of teleconnections per hundred people in the population.

Q495. Why is tele density not the same as the percentage of the population that has connectivity?

- a) Because tele density does not count internet connections
- b) Because one person may have more than one connection or one connection may be shared by more than one person
- c) Because it measures the number of households with teleconnections, not individuals
- d) Because it only measures rural teleconnections

Answer: b) Because one person may have more than one connection or one connection may be shared by more than one person

Explanation: Tele density differs from the percentage of the population with connectivity because one person can have multiple connections or a single connection may be shared by multiple people.

Q496. What is an example of a simple service that counts toward connectivity in NEIS?

- a) Mobile internet
- b) Dial-up Internet access
- c) Fiber-optic broadband
- d) Satellite television

Answer: b) Dial-up Internet access

Explanation: A simple service that counts toward connectivity in NEIS is dial-up Internet access, along with other services like telephone connections.

Q497. What is the role of capacity in the context of NEIS?

- a) Capacity refers to the financial resources needed to maintain telecommunication networks
- b) Capacity refers to the ability of a network to handle the growing demand for data and services
- c) Capacity refers to the number of users that can access the internet at the same time
- d) Capacity refers to the speed at which data is transmitted

Answer: b) Capacity refers to the ability of a network to handle the growing demand for data and services

Explanation: In the context of NEIS, capacity refers to the ability of a network to manage the increasing demand for data and various services.

Q498. Why is culture considered an issue in the development of NEIS?

- a) Different cultures may have unique communication needs and preferences
- b) Culture affects the technological infrastructure required in a country
- c) Some cultures prefer analog systems over digital networks
- d) Culture determines the pricing of telecommunications services

Answer: a) Different cultures may have unique communication needs and preferences

Explanation: Culture is an issue in the development of NEIS because different cultures may have distinct communication needs, languages, and preferences, which must be accommodated.

Q499. How does cost become a key issue in NEIS?

- a) Because telecommunication services are expensive to implement and maintain
- b) Because governments control all telecommunication costs globally
- c) Because it affects how quickly new technologies are adopted in developing countries
- d) Because telecommunication infrastructure is free to use

Answer: a) Because telecommunication services are expensive to implement and maintain

Explanation: Cost becomes a key issue in NEIS due to the high expenses associated with the implementation and maintenance of telecommunication services and infrastructure.

Q500. How is access to the Global Information Infrastructure (GII) typically obtained?

- a) Through mobile and satellite networks only
- b) Via landline telephone networks, packet-switched data networks, mobile networks, or ISDN

- c) Using analog lines only
- d) Direct access to satellites

Answer: b) Via landline telephone networks, packet-switched data networks, mobile networks, or ISDN

Explanation: Access to GII is typically obtained through various telecommunication networks, including landline telephone, packet-switched data networks, mobile networks, and ISDN.

Q501. What is the function of the Subscriber Line Interface Card (SLIC) in the context of network access?

- a) It converts digital signals to analog for transmission
- b) It receives analog signals at the exchange end
- c) It enables satellite communication
- d) It manages the internet connection speed for the subscriber

Answer: b) It receives analog signals at the exchange end

Explanation: The SLIC at the exchange is designed to receive analog signals from the subscriber end in networks where the subscriber side may not yet be digital.

Q502. What is the most commonly used mobile communication system today?

- a) First-generation analog mobile systems
- b) Third-generation mobile systems
- c) Global System for Mobile Communications (GSM)
- d) Asymmetric Digital Subscriber Line (ADSL)

Answer: c) Global System for Mobile Communications (GSM)

Explanation: The most used mobile communication system today is the second-generation system, which

follows the GSM standard and is inherently a digital cellular system.

Q503. Which mobile communication systems are categorized as third-generation systems?

- a) Analog systems phased out in earlier generations
- b) Mobile networks that integrate personal communication via satellites and base stations
- c) Leased lines used for data transmission
- d) Digital subscriber lines (DSL) with fiber optics

Answer: b) Mobile networks that integrate personal communication via satellites and base stations

Explanation: Third-generation mobile systems integrate personal communication via satellites and mobile networks, providing universal communication facilities.

Q504. What is the basic assumption regarding subscriber-end devices in the Global Information Infrastructure (GII)?

- a) They are analog devices
- b) They are digital devices
- c) They are mobile phones
- d) They are hybrid devices

Answer: b) They are digital devices

Explanation: A basic assumption in GII is that all devices at the subscriber end are digital, even though the access networks may still be analog.

Q505. What is the function of a modem when using analog lines for digital transmission?

- a) To convert digital signals into satellite signals
- b) To amplify analog signals over long distances
- c) To perform digital-to-analog and analog-to-

digital conversions for data transmission

d) To connect mobile phones to landline networks

Answer: c) To perform digital-to-analog and analog-to-digital conversions for data transmission

Explanation: Modems are used on analog lines to convert digital signals into analog for transmission and back into digital for reception.

Q506. What are leased lines typically used for in data networks?

- a) For establishing dial-up access to the internet**
- b) For permanent point-to-point information transfer between two end points**
- c) For temporary connections in mobile communication**
- d) For high-speed fiber optic connections**

Answer: b) For permanent point-to-point information transfer between two end points

Explanation: Leased lines are dedicated or private lines obtained on lease, used for permanent point-to-point information transfer, typically in data networks.

Q507. What is a Point-Of-Presence (POP) in telecommunications?

- a) A satellite communication terminal**
- b) The nearest point of telecommunication infrastructure to the subscriber**
- c) A device used for mobile internet access**
- d) A cloud server used for data storage**

Answer: b) The nearest point of telecommunication infrastructure to the subscriber

Explanation: A POP is the nearest point of telecommunication infrastructure to the subscriber premises, such as a telephone exchange or mobile base station.

Q508. Which access link type provides the highest speeds for subscriber connections?

- a) Analog lines with modems**
- b) Asymmetric Digital Subscriber Line (ADSL)**
- c) Leased lines**
- d) High-Speed Digital Subscriber Line (HDSL)**

Answer: d) High-Speed Digital Subscriber Line (HDSL)

Explanation: HDSL provides the highest speeds for subscriber connections compared to other access link types like analog lines or ADSL.

Q509. Which of the following is a characteristic of ISDN networks?

- a) Subscriber end equipment can be either analog or digital**
- b) It operates entirely in digital mode, from subscriber to exchange**
- c) It uses first-generation analog switching technology**
- d) It does not support multimedia services**

Answer: b) It operates entirely in digital mode, from subscriber to exchange

Explanation: ISDN operates entirely in digital mode, from the subscriber equipment to the exchange, supporting multimedia services like voice, data, and video.

Q510. What is the main characteristic of Asymmetric DSL (ADSL) lines?

- a) They offer symmetric upload and download speeds**
- b) They offer high download speeds but limited upload speeds**
- c) They provide high upload speeds but low download speeds**
- d) They support data transmission in analog mode**

Answer: b) They offer high download speeds but limited upload speeds

Explanation: ADSL lines are designed to provide high download speeds up to 2 Mbps but have limited upload speeds, typically 64 or 128 Kbps.

Q511. How do High-Speed Digital Subscriber Lines (HDSL) differ from Asymmetric DSL (ADSL)?

- a) HDSL supports high upload speeds, while ADSL does not
- b) HDSL offers symmetric data transmission, while ADSL offers asymmetric
- c) HDSL is used for television cable infrastructure, while ADSL is used for telephone lines
- d) HDSL offers lower speeds compared to ADSL

Answer: b) HDSL offers symmetric data transmission, while ADSL offers asymmetric

Explanation: HDSL provides symmetric high bit rate data transmission both ways, whereas ADSL offers high download speeds with limited upload speeds.

Q512. What device is used to connect a personal computer to the television cable for high-speed internet access?

- a) Channel Service Unit (CSU)
- b) Data Service Unit (DSU)
- c) Cable modem
- d) Network Termination Type 1 (NT1)

Answer: c) Cable modem

Explanation: A cable modem is used to connect a personal computer to the television cable, offering high-speed internet access.

Q513. What are the typical speeds offered by cable modems for upload and download on television cables?

- a) Upload up to 128 kbps and download up to 2 Mbps
- b) Upload up to 256 kbps and download up to 10

Mbps

- c) Upload up to 64 kbps and download up to 5 Mbps
- d) Upload up to 512 kbps and download up to 20 Mbps

Answer: b) Upload up to 256 kbps and download up to 10 Mbps

Explanation: Cable modems typically offer upload speeds up to 256 kbps and download speeds up to 10 Mbps on television cables.

Q514. What components make up the access device for a data switch Point-Of-Presence (POP)?

- a) Network Termination Type 1 (NT1) and Network Termination Type 2 (NT2)
- b) Channel Service Unit (CSU) and Data Service Unit (DSU)
- c) Terminal Adapters (TA) and Data Service Unit (DSU)
- d) Cable modem and Asymmetric DSL

Answer: b) Channel Service Unit (CSU) and Data Service Unit (DSU)

Explanation: For a data switch POP, the access device includes a Channel Service Unit (CSU) and a Data Service Unit (DSU).

Q515. What functions does the Channel Service Unit (CSU) perform?

- a) It connects the user to a satellite network
- b) It protects the POP from improper voltages and signals
- c) It formats user data for television cable transmission
- d) It provides high-speed internet access through DSL

Answer: b) It protects the POP from improper voltages and signals

Explanation: The CSU protects the POP from improper voltages and signals that a subscriber might accidentally transfer.

Q516. What additional functions does Network Termination Type 2 (NT2) perform compared to Network Termination Type 1 (NT1)?

- a) It connects to the cable modem
- b) It handles errors and performs routing functions
- c) It converts analog signals to digital
- d) It provides access to ADSL lines

Answer: b) It handles errors and performs routing functions

Explanation: NT2 handles errors and performs routing functions, which is useful for connecting a LAN to the POP.

Q517. How do home networks differ from traditional telecommunication setups in offices and homes?

- a) Home networks use analog technology, while offices use digital
- b) Home networks are not yet a widespread reality compared to office setups
- c) Home networks offer more telecommunication facilities than offices
- d) Home networks exclusively use fiber optics, unlike office networks

Answer: b) Home networks are not yet a widespread reality compared to office setups

Explanation: Home networks are still a vision and not as widely implemented as the traditional telecommunication setups in offices and homes.

Q518. What does the minimum configuration of network termination units (NTU) for ISDN allow?

- a) Four devices to be connected with a data rate of 64 kbps
- b) Eight devices to be connected with a data rate of 144 kbps
- c) Ten devices to be connected with a data rate of 128 kbps
- d) Six devices to be connected with a data rate of 256 kbps

Answer: b) Eight devices to be connected with a data rate of 144 kbps

Explanation: The minimum configuration of NTU for ISDN allows eight devices to be connected with a minimum data rate of 144 kbps.

Q519. What are the two types of channels in ISDN's basic rate interface (BRI), and what are their functions?

- a) B-Channel and T-Channel: B-Channel for data services, T-Channel for signaling
- b) D-Channel and E-Channel: D-Channel for data services, E-Channel for signaling
- c) B-Channel and D-Channel: B-Channel for real-time services and packet-switched channels, D-Channel for signaling and data transfer
- d) A-Channel and B-Channel: A-Channel for signaling, B-Channel for data services

Answer: c) B-Channel and D-Channel: B-Channel for real-time services and packet-switched channels, D-Channel for signaling and data transfer

Explanation: In ISDN BRI, the B-Channel is used for circuit-switched services like voice and slow-motion video, and for packet-switched data services, while the D-Channel is used for signaling and can also handle data transfer if spare capacity is available.

Q520. What are the three speeds available for Ethernet LAN configurations commonly used in offices?

- a) 1 Mbps, 10 Mbps, 100 Mbps
- b) 10 Mbps, 100 Mbps, 1 Gbps
- c) 100 Mbps, 1 Gbps, 10 Gbps
- d) 1 Mbps, 100 Mbps, 10 Gbps

Answer: b) 10 Mbps, 100 Mbps, 1 Gbps

Explanation: The three common speeds for Ethernet LAN configurations used in offices are 10 Mbps, 100 Mbps, and 1 Gbps.

Q521. What type of cables are most widely used for Ethernet transmission, and what categories are used for different speeds?

- a) Coaxial cables: Category 3 for 10 Mbps, Category 5 for 100 Mbps, Category 6 for 1 Gbps
- b) Fiber optic cables: Category 3 for 10 Mbps, Category 5 for 100 Mbps, Category 6 for 1 Gbps
- c) Unshielded Twisted Pair (UTP) cables: Category 3 for 10 Mbps, Category 5 for 100 Mbps, Category 6 for 1 Gbps
- d) Shielded Twisted Pair (STP) cables: Category 3 for 10 Mbps, Category 5 for 100 Mbps, Category 6 for 1 Gbps

Answer: c) Unshielded Twisted Pair (UTP) cables: Category 3 for 10 Mbps, Category 5 for 100 Mbps, Category 6 for 1 Gbps

Explanation: Unshielded Twisted Pair (UTP) cables are commonly used for Ethernet transmission, with different categories supporting different speeds: Category 3 for 10 Mbps, Category 5 for 100 Mbps, and Category 6 for 1 Gbps.

Q522. What is the role of servers in an office network?

- a) To provide wireless connectivity
- b) To manage and share centralized resources, such as printers and files
- c) To act as a backup for all network devices

- d) To configure network devices and security settings

Answer: b) To manage and share centralized resources, such as printers and files

Explanation: Servers in an office network manage and share centralized resources like printers, files, databases, and email, making them accessible to everyone on the network.

Q523. What is typically associated with an expensive resource added to a network?

- a) A personal computer
- b) A mainframe
- c) A server
- d) A router

Answer: c) A server

Explanation: When an expensive resource is added to a network, a server is typically associated with it to make the resource sharable or to control access to it.

Q524. What are some examples of servers found in an office environment?

- a) Printer server, Email server, File server, Database server
- b) Router server, Switch server, Firewall server
- c) Modem server, Network Access server, Cable server
- d) Television server, Media server, Game server

Answer: a) Printer server, Email server, File server, Database server

Explanation: Examples of servers found in an office environment include printer servers, email servers, file servers, and database servers.

Q525. What are the different types of devices that can be used to implement a server in a network?

- a) Only mainframes
- b) Personal computers, workstations, or mainframes
- c) Only workstations
- d) Only high-end routers

Answer: b) Personal computers, workstations, or mainframes

Explanation: Servers can be implemented using personal computers, workstations, or mainframes, depending on the needs of the network.

Q526. What are the three types of corporate networks?

- a) Intranet, Extranet, Virtual Private Network
- b) LAN, WAN, MAN
- c) Internet, Extranet, Private Network
- d) VPN, Ethernet, Token Ring

Answer: a) Intranet, Extranet, Virtual Private Network

Explanation: The three types of corporate networks are Intranet, Extranet, and Virtual Private Network (VPN).

Q527. What is the primary characteristic of a closed user group in corporate networks?

- a) It is open to everyone on the Internet
- b) It serves a particular user group with restricted access
- c) It is only accessible via leased lines
- d) It allows unrestricted access to anyone within the corporation

Answer: b) It serves a particular user group with restricted access

Explanation: A closed user group in corporate networks serves a particular user group with restricted access to ensure security.

Q528. How does an Intranet differ from the Internet in terms of access?

- a) Intranet is accessible by anyone on the Internet, while the Internet is restricted
- b) Intranet is restricted to the corporate community, while the Internet is public
- c) Intranet is slower compared to the Internet
- d) Intranet requires special hardware to access, while the Internet does not

Answer: b) Intranet is restricted to the corporate community, while the Internet is public

Explanation: An Intranet is restricted to the corporate community and is not accessible to outsiders, while the Internet is a public network accessible to everyone.

Q529. What does an Extranet include beyond the corporate employees?

- a) Only corporate employees from different branches
- b) Only suppliers and distributors of the corporate
- c) Suppliers, distributors, and business associates
- d) External customers and clients

Answer: c) Suppliers, distributors, and business associates

Explanation: An Extranet includes not only the corporate employees but also suppliers, distributors, and business associates.

Q530. Why did corporate bodies shift from using leased lines to Intranet?

- a) Leased lines were more secure than Intranet
- b) Leased lines were less expensive compared to Internet-based solutions
- c) Intranet is cheaper due to lower Internet communication costs
- d) Intranet provided better hardware support than leased lines

Answer: c) Intranet is cheaper due to lower Internet communication costs

Explanation: Corporate bodies shifted to using Intranet because it is cheaper due to lower Internet communication costs compared to the expensive leased lines.

Q531. What is a Virtual Private Network (VPN) and how does it enhance security?

- a) A VPN uses a private infrastructure and requires no additional security measures
- b) A VPN is a private network with physical security measures
- c) A VPN uses shared public infrastructure but adds additional security through tunneling
- d) A VPN is a type of leased line network that provides inherent security

Answer: c) A VPN uses shared public infrastructure but adds additional security through tunneling

Explanation: A VPN uses shared public infrastructure like the Internet but adds additional security through mechanisms like tunneling and encryption to protect data.

Q532. What is the purpose of tunneling in VPNs?

- a) To provide a physical barrier to unauthorized access
- b) To encapsulate and encrypt data for secure transmission over the Internet
- c) To connect directly to leased lines without encryption
- d) To filter data to prevent network congestion

Answer: b) To encapsulate and encrypt data for secure transmission over the Internet

Explanation: Tunneling in VPNs is used to encapsulate and encrypt data to ensure secure

transmission over the Internet, protecting it from unauthorized access.

Q533. How does tunneling in VPNs resemble using two envelopes for communication?

- a) The outer envelope is used for address processing, and the inner envelope contains the actual data
- b) Both envelopes are used for encryption and decryption
- c) The inner envelope is used for address processing, and the outer envelope contains the data
- d) Only the outer envelope is used, while the inner envelope is discarded

Answer: a) The outer envelope is used for address processing, and the inner envelope contains the actual data

Explanation: Tunneling in VPNs is like using two envelopes for communication where the outer envelope is used for address processing and the inner envelope contains the actual data, ensuring that only the outer envelope is visible during transmission.

Q534. What are the three types of user authentication methods mentioned?

- a) Information keys, physical keys, biometric keys
- b) Password keys, digital signatures, smart cards
- c) Voiceprints, fingerprints, encryption
- d) Biometric keys, digital signatures, firewalls

Answer: a) Information keys, physical keys, biometric keys

Explanation: The three types of user authentication methods are information keys (like passwords), physical keys (like magnetic cards), and biometric keys (like voiceprints and fingerprints).

Q535. How does the Challenge Handshake Authentication Protocol (CHAP) differ from Kerberos in terms of authentication?

- a) CHAP uses a central server for authentication, while Kerberos uses direct server authentication
- b) CHAP performs authentication via a central server, while Kerberos performs it directly from the server
- c) Kerberos uses digital signatures, while CHAP uses biometric authentication
- d) Kerberos and CHAP are similar in terms of authentication methods

Answer: b) CHAP performs authentication via a central server, while Kerberos performs it directly from the server

Explanation: CHAP authentication occurs directly from the server the user wishes to access, while Kerberos authentication takes place via a central Kerberos server.

Q536. What is the purpose of digital signatures in message authentication?

- a) To encrypt the message content for security
- b) To authenticate the signer, the contents, and proof of dispatch of the document
- c) To decrypt the encrypted message
- d) To analyze the effectiveness of the encryption scheme

Answer: b) To authenticate the signer, the contents, and proof of dispatch of the document

Explanation: Digital signatures are used to authenticate the signer, the contents of the document, and provide proof of dispatch.

Q537. What does cryptology involve?

- a) Only encryption and decryption processes
- b) Encryption, decryption, and crypt analysis

- c) Only crypt analysis and storage security
- d) Only decryption and public key systems

Answer: b) Encryption, decryption, and crypt analysis

Explanation: Cryptology involves encryption, decryption, and crypt analysis to ensure secure communication and data protection.

Q538. What distinguishes symmetric cryptosystems from asymmetric cryptosystems?

- a) Symmetric systems use the same key for encryption and decryption, while asymmetric systems use different keys
- b) Asymmetric systems are faster than symmetric systems
- c) Symmetric systems are used for email encryption only
- d) Asymmetric systems require physical keys

Answer: a) Symmetric systems use the same key for encryption and decryption, while asymmetric systems use different keys

Explanation: Symmetric cryptosystems use the same key for both encryption and decryption, while asymmetric cryptosystems use different keys.

Q539. What is a widely used symmetric cryptosystem and an example of an asymmetric cryptosystem?

- a) RSA and DES
- b) DES and RSA
- c) Public key cryptography and DES
- d) Private key cryptography and RSA

Answer: b) DES and RSA

Explanation: Data Encryption Standard (DES) is a widely used symmetric cryptosystem, and RSA is a well-known asymmetric cryptosystem.

Q540. What is the role of a firewall in network security?

- a) To encrypt data for secure communication
- b) To examine incoming messages and control access between a public and a private network
- c) To detect and remove malicious software from the network
- d) To manage user authentication and digital signatures

Answer: b) To examine incoming messages and control access between a public and a private network

Explanation: A firewall examines incoming messages and controls access between a public access network and a private protected network.

Q541. How do application firewalls, also known as proxies, contribute to application security?

- a) By encrypting all data transmitted over the network
- b) By inspecting and filtering network traffic to prevent unauthorized access
- c) By managing user authentication and access permissions
- d) By monitoring and removing malicious software from applications

Answer: b) By inspecting and filtering network traffic to prevent unauthorized access

Explanation: Application firewalls or proxies contribute to application security by inspecting and filtering network traffic to prevent unauthorized access.

Q542. What are the three common types of malicious content that can enter networks?

- a) Viruses, worms, and Trojan horses
- b) Spam, encryption keys, and digital signatures

- c) Firewalls, proxies, and antivirus software
- d) Spam, phishing, and ransomware

Answer: a) Viruses, worms, and Trojan horses

Explanation: The three common types of malicious content that can enter networks are viruses, worms, and Trojan horses.

UNIT 13 INFORMATION SOCIETY

Q543. According to Masuda, what was the driving force for the development of society?

- a) Technological advancements
- b) Production of information values
- c) Industrial progress
- d) Political changes

Answer: b) Production of information values

Explanation: Masuda perceived the transition of society to a point where the production of information values became the driving force for societal development.

Q544. What did Tom Stonier argue about the transition from industrial to information societies?

- a) The shift was purely technological with no social implications
- b) There were explicit parallels and contrasts between industrial and information societies
- c) Information societies were a temporary phase before returning to industrialism
- d) The transition was solely driven by economic factors

Answer: b) There were explicit parallels and contrasts between industrial and information societies

Explanation: Tom Stonier drew explicit parallels and contrasts between industrial and information societies in his analysis.

Q545. How did Daniel Bell contribute to the concept of the 'Information Society'?

- a) By promoting technological utopianism
- b) By arguing for the dominance of industrial production
- c) By theorizing that theoretical knowledge is central to the socio-economic system
- d) By criticizing the idea of information as a source of wealth

Answer: c) By theorizing that theoretical knowledge is central to the socio-economic system

Explanation: Daniel Bell argued that the rise of theoretical knowledge, driven by science and technology, indicated a shift to a new 'axial principle' central to the socio-economic system.

Q546. What factor was key in shifting discourse from post-industrialism to the Information Society?

- a) The decline of industrial production
- b) The massive growth in the economic significance of Information Technology
- c) The rise of political movements
- d) The introduction of manual labor

Answer: b) The massive growth in the economic significance of Information Technology

Explanation: The growth in the economic significance of Information Technology was a key factor in shifting the discourse from post-industrialism to the Information Society.

Q547. What theme is described as having a powerful influence in the U.S.A., ?

- a) Technological dystopianism
- b) Technological utopianism

- c) Industrial conservatism
- d) Political pragmatism

Answer: b) Technological utopianism

Explanation: Technological utopianism, especially prevalent in the U.S.A., is described as a powerful theme that influenced the concept of the Information Society.

Q548. How did Alvin Toffler and John Naisbitt contribute to the popularization of the 'Information Society'?

- a) By criticizing the concept of information societies
- b) By promoting the idea of technological dystopianism
- c) By popularizing the concept through their writings and analyses
- d) By focusing solely on economic factors

Answer: c) By popularizing the concept through their writings and analyses

Explanation: Alvin Toffler and John Naisbitt played a significant role in popularizing the concept of the 'Information Society' through their influential writings.

Q549. According to Manfred Kochen, what is an 'Information Society' evolving towards?

- a) A global industrial system
- b) A stage in the evolution of 'community brains' towards a 'world brain'
- c) A network of isolated knowledge hubs
- d) A focus on manual labor and industrialization

Answer: b) A stage in the evolution of 'community brains' towards a 'world brain'

Explanation: Manfred Kochen described the 'Information Society' as a stage in the evolution

towards a 'world brain,' reflecting a significant transition in how knowledge is organized and shared.

Q550. What metaphor did Alvin Toffler use to describe the impact of information on society?

- a) A technological revolution
- b) An information bomb exploding
- c) A gradual shift in societal norms
- d) A new industrial age

Answer: b) An information bomb exploding

Explanation: Alvin Toffler metaphorically described the impact of information on society as an 'information bomb exploding,' indicating a significant and disruptive change.

Q551. What role did the computer play in the transition from an industrial to an information society ?

- a) It facilitated the return to industrial practices
- b) It was a significant factor in the transition to an information society
- c) It had no impact on the societal transition
- d) It only influenced economic factors

Answer: b) It was a significant factor in the transition to an information society

Explanation: The computer played a significant role in the transition from an industrial to an information society, contributing to the rise of information technology and its economic significance.

Q552. How does Blaise Cronin define an information society?

- a) A society where physical labor is essential
- b) A society where intellectual labor dominates, and physical labor seems outdated
- c) A society focused solely on technological advancements

d) A society where manual labor is equally important as intellectual work

Answer: b) A society where intellectual labor dominates, and physical labor seems outdated

Explanation: Blaise Cronin describes an information society as one where labor has become intellectualized, making physical labor seem outdated.

Q553. What does Manfred Kochen emphasize about the concept of an information society?

- a) The dominance of material flows over information
- b) The importance of technological and economic aspects alone
- c) The central role of information in communication and control exchanges
- d) The reduction of information flow in societal exchanges

Answer: c) The central role of information in communication and control exchanges

Explanation: Manfred Kochen emphasizes that in an information society, information rather than material flows constitutes most of the communication and control exchanges.

Q554. According to Martin, how does information impact various aspects of society?

- a) It has minimal influence on living standards and the marketplace
- b) It influences living standards, work patterns, education, and the marketplace
- c) It only affects the economy, not other societal aspects
- d) It has a negative impact on social change and economic development

Answer: b) It influences living standards, work patterns, education, and the marketplace

Explanation: Martin suggests that in an information society, information significantly influences living standards, work patterns, education, and the marketplace.

Q555. What is Branscomb's definition of an information society?

- a) A society where most people are engaged in physical labor
- b) A society where information is minimally utilized
- c) A society where the majority of people are involved in creating, gathering, storing, processing, or distributing information
- d) A society that focuses only on technological advancements

Answer: c) A society where most people are involved in creating, gathering, storing, processing, or distributing information

Explanation: Branscomb defines an information society as one where the majority of people are engaged in various aspects of information handling.

Q556. What are the five criteria for defining an Information Society, according to Frank Webster?

- a) Technological, economic, occupational, spatial, cultural
- b) Political, social, economic, environmental, technological
- c) Technological, educational, economic, cultural, geographical
- d) Technological, political, social, financial, cultural

Answer: a) Technological, economic, occupational, spatial, cultural

Explanation: Frank Webster distinguishes five criteria for defining an Information Society:

technological, economic, occupational, spatial, and cultural.

Q557. What does the technological perception of the Information Society emphasize?

- a) Economic factors and market trends
- b) Social and political attributes
- c) Breakthroughs in information processing, storage, and transmission
- d) Cultural and spatial aspects of society

Answer: c) Breakthroughs in information processing, storage, and transmission

Explanation: Technological perception emphasizes the role of technological innovations in information processing, storage, and transmission.

Q558. What major concern is highlighted in the technological perspective of the Information Society?

- a) The high cost of computers
- b) The increasing power of computers and their widespread application
- c) The decline in the use of information technology
- d) The reduction of technological advancements

Answer: b) The increasing power of computers and their widespread application

Explanation: The technological perspective highlights the significant increase in computer power and its widespread application across various areas of society.

Q559. What does Martin's scenario of the Information Society primarily focus on?

- a) The economic impact of information technology
- b) The spread of digital networks as a key element
- c) The reduction in technological infrastructure
- d) The decline of information-intensive products

Answer: b) The spread of digital networks as a key element

Explanation: Martin's scenario focuses on the spread of digital networks as a key element in the Information Society.

Q560. What economic changes are often associated with the concept of an information society?

- a) Growth of the manufacturing sector and decline in services
- b) Growth of the service sector and decline in manufacturing employment
- c) Increase in agricultural productivity and decline in information jobs
- d) Equal growth in both industrial and service sectors

Answer: b) Growth of the service sector and decline in manufacturing employment

Explanation: The economic perception of an information society highlights the growth of the service sector and a decline in employment in manufacturing.

Q561. How did Machlup contribute to the study of the information society?

- a) By analyzing the growth of the agricultural sector
- b) By focusing on the 'knowledge sector' and its economic contribution
- c) By examining technological innovations only
- d) By studying political impacts on the information society

Answer: b) By focusing on the 'knowledge sector' and its economic contribution

Explanation: Machlup analyzed the 'knowledge sector' and its significant contribution to the Gross National Product (GNP), emphasizing its growth compared to the industrial sector.

Q562. What was Umaseo's prediction about the 'spiritual industries'?

- a) They would decline in developed economies
- b) They would rise over material and agricultural sectors in developed economies
- c) They would remain unchanged in economic importance
- d) They would replace the manufacturing sector

Answer: b) They would rise over material and agricultural sectors in developed economies

Explanation: Umaseo predicted that 'spiritual industries' would rise over material and agricultural sectors in more developed economies.

Q563. What was Marc Porat's contribution to the study of the information economy?

- a) Focusing on technological advancements only
- b) Defining information activities and sectors broadly, including both primary and secondary information sectors
- c) Limiting the definition of information work to the knowledge sector only
- d) Analyzing only the impact of information on social structures

Answer: b) Defining information activities and sectors broadly, including both primary and secondary information sectors

Explanation: Marc Porat broadened the definition of information activities to include both primary and secondary information sectors, estimating their significant impact on the economy and labor force.

Q564. What criticism has been directed towards Porat's analysis of the information economy?

- a) It is too narrow and does not account for all economic sectors
- b) It lacks consideration of the technological aspects of the information society

- c) It is too broad and includes too many types of workers as information workers
- d) It does not adequately address the social implications of the shift to an information society

Answer: c) It is too broad and includes too many types of workers as information workers

Explanation: Critics have argued that Porat's classification of information workers is too broad, including diverse jobs that may not fit logically within the information sector, potentially weakening its social distinctiveness.

Q565. What is a key role of the information profession in the information society?

- a) Limiting access to information to maintain control
- b) Creating databases and systems to assist in searching and information retrieval
- c) Focusing solely on the technical aspects of information management
- d) Avoiding financial negotiations with publishers

Answer: b) Creating databases and systems to assist in searching and information retrieval

Explanation: The information profession plays a crucial role in creating databases and systems that use technology to assist users in searching and retrieving information.

Q566. How can information professionals help address the digital divide?

- a) By limiting access to digital resources
- b) By ensuring access to information resources and promoting information literacy
- c) By avoiding the use of technology in information management
- d) By focusing only on traditional information sources

Answer: b) By ensuring access to information resources and promoting information literacy

Explanation: Information professionals can address the digital divide by ensuring access to resources and promoting information literacy to help individuals navigate and benefit from digital environments.

Q567. What distinction does the text make between information skills and technical skills?

- a) Information skills are not necessary in the information society
- b) Technical skills are more important than information skills
- c) Information skills involve evaluating the quality of information, while technical skills involve working with technology
- d) Technical skills and information skills are identical and interchangeable

Answer: c) Information skills involve evaluating the quality of information, while technical skills involve working with technology

Explanation: The text distinguishes between information skills, which involve evaluating the quality and relevance of information, and technical skills, which are necessary for working with technology and accessing electronic resources.

Q568. Why is the mediation role of information professionals still significant despite technological advances?

- a) Machines can fully understand and interpret complex language nuances
- b) Machines cannot fully grasp semantic complexities and subtleties of language
- c) The role of mediation is less important now due to advanced technology
- d) Information professionals have become obsolete in the digital age

Answer: b) Machines cannot fully grasp semantic complexities and subtleties of language

Explanation: Despite technological advances, the mediation role of information professionals remains significant because machines cannot fully understand the semantic complexities and nuances of language necessary for effective information retrieval.

UNIT 14 KNOWLEDGE SOCIETY

Q500. What new dimension has been added to the factors of economic production in the knowledge economy?

- a) Information and knowledge
- b) Technology and innovation
- c) Capital and investment
- d) Trade and commerce

Answer: a) Information and knowledge

Explanation: In the knowledge economy, 'information and knowledge' have been added as new dimensions to the conventional factors of economic production, which traditionally included land, labour, capital, and organization.

Q501. Why did economists previously resist considering information and knowledge as distinct factors of production?

- a) Because they were seen as irrelevant to economic theory
- b) Because they were considered part of overheads for accounting and budgets
- c) Because they lacked clear measurable metrics
- d) Because they were not seen as valuable resources

Answer: b) Because they were considered part of overheads for accounting and budgets

Explanation: Economists previously viewed information and knowledge as part of overheads for accounting and budgets, which led to reluctance in recognizing them as distinct factors of production.

Q502. What has led to the emergence of information/knowledge economics as a specialty?

- a) The integration of technology in traditional economic theories
- b) The failures of government and business policies
- c) The increase in investments in information and knowledge generation
- d) The advancement of intelligent electronics and its impact on communication and control

Answer: d) The advancement of intelligent electronics and its impact on communication and control

Explanation: The advancement of intelligent electronics, which enhances capacities for communication, computation, and control, has contributed to the emergence of information/knowledge economics as a specialty.

Q503. According to Lamberton, what is transforming economics and other social sciences?

- a) The development of new economic policies
- b) The integration of information technology in production processes
- c) The new paradigm of information and knowledge economics
- d) The increase in global trade and economic cooperation

Answer: c) The new paradigm of information and knowledge economics

Explanation: Lamberton claims that the emergence of the new paradigm of information and knowledge economics is transforming economics and possibly other social sciences.

Q504. What is one characteristic of information and knowledge that distinguishes them from other economic resources?

- a) They are easily quantifiable and measurable
- b) They are shareable but not exchangeable
- c) They decrease in value with use
- d) They are static and unchanging

Answer: b) They are shareable but not exchangeable

Explanation: Information and knowledge are unique because they are shareable but not exchangeable, meaning they can be given away and retained simultaneously.

Q505. How does the value of information and knowledge change over time?

- a) It remains constant
- b) It decreases predictably over time
- c) It varies in an unpredictable manner
- d) It is fixed based on initial investment

Answer: c) It varies in an unpredictable manner

Explanation: The value of information and knowledge can vary unpredictably over time, unlike other economic resources.

Q506. What does the characteristic of information and knowledge be "expandable and increasing with use" imply?

- a) Information and knowledge diminish in value with more use
- b) Information and knowledge cannot be utilized multiple times
- c) Information and knowledge grow and improve as they are used
- d) Information and knowledge remain static regardless of usage

Answer: c) Information and knowledge grow and improve as they are used

Explanation: The characteristic that information and knowledge are "expandable and increasing with use" means that their value and utility grow as they are utilized.

Q507. How is the 'consumption rate' of information and knowledge quantified?

- a) By measuring the amount of time spent on using them
- b) By calculating their impact on productivity
- c) By quantifying the frequency and extent of their use
- d) By assessing their influence on decision-making

Answer: c) By quantifying the frequency and extent of their use

Explanation: The 'consumption rate' of information and knowledge can be quantified by measuring how frequently and extensively they are used.

Q508. Who are considered knowledge workers in the new economy?

- a) Engineers, programmers, and designers
- b) Salespersons, accountants, and administrative staff
- c) Manufacturing workers and laborers
- d) Marketing executives and customer service representatives

Answer: a) Engineers, programmers, and designers

Explanation: Knowledge workers include individuals such as engineers, programmers, and designers whose major output is research that leads to new products and services.

Q509. What does the category "Content Services" include?

- a) Newspapers, directories, periodicals, books
- b) Electronic and non-electronic databases, indexes, libraries
- c) Computers, peripherals, office information equipment
- d) Radio, television, videodisc and tape players

Answer: b) Electronic and non-electronic databases, indexes, libraries

Explanation: "Content Services" encompasses electronic and non-electronic databases, indexes, libraries, and other services related to information management.

Q510. Which category includes "packet switches, switchboards, and modems"?

- a) Information Technologies
- b) Content Packages
- c) Facilitation Services
- d) Integrating Technologies

Answer: d) Integrating Technologies

Explanation: "Integrating Technologies" includes devices such as packet switches, switchboards, modems, and other equipment that facilitates the integration of different technologies.

Q511. According to Peter Drucker, what is needed to fully understand knowledge as an economic resource?

- a) An improved theory of economic value
- b) An economic theory that places knowledge at the center of wealth production
- c) Advanced data analytics tools
- d) Increased government regulation on knowledge production

Answer: b) An economic theory that places knowledge at the center of wealth production

Explanation: Drucker emphasizes the need for an economic theory that centers on knowledge as a primary factor of wealth production to fully understand its role as an economic resource.

Q512. Which method is NOT listed for developing knowledge?

- a) Continuous improvement of process, product, service
- b) Exploitation of existing knowledge to develop new products
- c) Genuine innovation
- d) Random experimentation without strategic planning

Answer: d) Random experimentation without strategic planning

Explanation: The methods for developing knowledge include continuous improvement, exploitation of existing knowledge, and genuine innovation, but random experimentation is not listed.

Q513. What is one characteristic of knowledge that distinguishes it from other economic resources?

- a) It can be measured precisely in terms of benefits
- b) It is intangible and cannot be quantified
- c) It decreases in value with increased use
- d) It is easy to predict its economic impact

Answer: b) It is intangible and cannot be quantified

Explanation: Knowledge is intangible, and its value cannot be easily quantified or measured in the same way as other economic resources.

Q514. What role do knowledge managers, chief knowledge officers, and knowledge engineers play in the context of knowledge management?

- a) They handle customer service and support
- b) They manage and optimize the use of

knowledge within an organization

- c) They oversee manufacturing and production processes
- d) They develop marketing strategies and sales plans

Answer: b) They manage and optimize the use of knowledge within an organization

Explanation: In knowledge management, roles such as knowledge managers and chief knowledge officers are focused on managing and optimizing the use of knowledge within organizations.

Q515. What challenge does the field of information economics face ?

- a) The inability to accurately measure the cost of producing knowledge
- b) The difficulty in quantifying knowledge and determining its economic return
- c) The overestimation of the value of knowledge
- d) The lack of technological tools to support knowledge management

Answer: b) The difficulty in quantifying knowledge and determining its economic return

Explanation: The field of information economics faces the challenge of quantifying knowledge and determining its economic return, as it is difficult to measure the value and impact of knowledge precisely.

Q516. What does the term 'digital divide' refer to?

- a) The gap between people who have access to modern information technology and those who do not
- b) The disparity in access to educational resources between different countries
- c) The differences in economic wealth between urban and rural areas
- d) The variation in technological advancements across different industries

Answer: a) The gap between people who have access to modern information technology and those who do not

Explanation: The 'digital divide' describes the disparity between individuals who have access to and can use modern information technology and those who cannot.

Q517. According to Keniston, which of the following is NOT one of the types of digital divides?

- a) Linguistic and cultural divide
- b) Economic and infrastructure divide
- c) National divide between developed and developing countries
- d) Emergence of a new elite group ('digirati')

Answer: b) Economic and infrastructure divide

Explanation: Keniston identifies divides related to wealth, education, language, and emerging elites, but not specifically an "economic and infrastructure divide" as a type of digital divide.

Q518. What was a key finding from the 2003 workshop on the digital divide held at the National Institute of Advanced Studies?

- a) Information technologies should only be introduced when they effectively meet basic human needs
- b) The most effective ICT solutions are always computer-based
- c) ICT programs should be designed solely by international experts
- d) Information technologies are irrelevant for local needs

Answer: a) Information technologies should only be introduced when they effectively meet basic human needs

Explanation: The workshop emphasized that information technologies should be implemented

when they are the most effective means of addressing basic human needs and rights.

Q519. What is the main argument regarding the value of ICT in developing countries?

- a) ICT can replace basic infrastructure needs
- b) ICT can make existing processes more efficient but cannot substitute for basic infrastructure
- c) ICT is ineffective without advanced technological tools
- d) ICT has no role in industrial growth

Answer: b) ICT can make existing processes more efficient but cannot substitute for basic infrastructure

Explanation: While ICT can improve the efficiency of existing assets and processes, it cannot replace the need for basic infrastructure necessary for growth.

Q520. What did Keniston suggest about the relationship between information poverty and other forms of poverty in developing nations?

- a) Information poverty is the primary cause of other deficiencies
- b) Information poverty is a consequence of other forms of poverty
- c) Information poverty is unrelated to other types of poverty
- d) Information poverty is the result of global economic policies

Answer: b) Information poverty is a consequence of other forms of poverty

Explanation: Keniston argues that information poverty in developing nations is a consequence of other forms of poverty, including social inequalities, illiteracy, and lack of basic public services.

Q521. , how is literacy defined in the context of the Indian population?

- a) Ability to read and write in English with formal schooling
- b) Ability to read and write simple words in any Indian language, with or without formal schooling
- c) Ability to perform complex calculations and technical writing
- d) Ability to use modern information technology tools

Answer: b) Ability to read and write simple words in any Indian language, with or without formal schooling

Explanation: Literacy in India is defined as the ability to read and write simple words in any Indian language, regardless of formal schooling, which is considered basic for the context of a knowledge economy.

Q522. What are some of the critical observations about the state of human capital in India as it relates to the knowledge economy?

- a) India's human capital is already advanced and does not require further development
- b) India's human capital needs substantial development to achieve a knowledge-based economy
- c) India's human capital is primarily focused on traditional industries
- d) India's human capital is irrelevant to the knowledge economy

Answer: b) India's human capital needs substantial development to achieve a knowledge-based economy

Explanation: The observations highlight that India's human capital needs significant development to effectively contribute to a knowledge-based economy.

Q523. What did the text suggest about the link between infrastructure and industrial growth?

- a) Infrastructure has little impact on industrial growth
- b) Industrial growth is supported by investments in large infrastructure projects
- c) Industrial growth only depends on technological advancements
- d) Infrastructure is not necessary for the growth of physical asset-intensive industries

Answer: b) Industrial growth is supported by investments in large infrastructure projects

Explanation: The text suggests that investments in large infrastructure, such as railways and power grids, support industrial growth by providing the necessary physical assets and facilities.

UNIT 15 KNOWLEDGE MANAGEMENT: CONCEPTS AND TOOLS

Q524. According to Davenport and Prusak, how is knowledge related to data and information?

- a) Knowledge is interchangeable with data and information
- b) Knowledge is neither data nor information but is related to both
- c) Knowledge is a subset of data and information
- d) Knowledge is a higher form of information and data

Answer: b) Knowledge is neither data nor information but is related to both

Explanation: Davenport and Prusak emphasize that knowledge is distinct from both data and information but has a relationship with both.

Q525. What are the three elements involved in the knowledge process?

- a) Data, information, and knowledge
- b) The knower, the known, and the process of knowing
- c) The knowee, the knower, and the process of knowing
- d) The knowledge holder, the knowledge seeker, and the process of application

Answer: c) The knowee, the knower, and the process of knowing

Explanation: The knowledge process involves the knowee, the knower, and the process of knowing, which together contribute to the creation of knowledge.

Q526. When does information become knowledge ?

- a) When it is processed in the mind of an individual
- b) When it is stored in digital forms
- c) When it is communicated to others
- d) When it is documented in written or spoken forms

Answer: a) When it is processed in the mind of an individual

Explanation: Information becomes knowledge once it is processed and interpreted by an individual's mind.

Q527. How does knowledge become information again after being processed?

- a) When it is embodied in documents or artifacts
- b) When it is articulated or communicated to others
- c) When it is stored in organizational processes
- d) When it is represented in multimedia forms

Answer: b) When it is articulated or communicated to others

Explanation: Knowledge becomes information again when it is articulated or communicated through various means such as text, speech, or other forms.

Q528. Which of the following best describes the nature of knowledge ?

- a) Knowledge is a static and fixed asset
- b) Knowledge is an intangible, boundary-less, and dynamic asset
- c) Knowledge is a tangible, boundary-defined, and static asset
- d) Knowledge is a fixed and re-usable physical resource

Answer: b) Knowledge is an intangible, boundary-less, and dynamic asset

Explanation: Knowledge is characterized as intangible, boundary-less, and dynamic, increasing in value with experience and organizational life.

Q529. What is a key characteristic of knowledge in the context of its value to an enterprise?

- a) It decreases in value with employee experience
- b) It is a renewable and re-usable asset that increases with experience
- c) It is valuable only when documented in digital forms
- d) It is fixed and does not change over time

Answer: b) It is a renewable and re-usable asset that increases with experience

Explanation: Knowledge is a renewable, re-usable asset that increases in value with employee experience and organizational life.

Q530. How is knowledge typically represented and embedded within an organization?

- a) Only through formal documentation and databases
- b) Only through physical artifacts and tangible resources
- c) In organizational processes, routines, networks,

and document repositories

d) Only through individual cognitive processes and intellectual activities

Answer: c) In organizational processes, routines, networks, and document repositories

Explanation: Knowledge can be represented and embedded in various organizational processes, routines, networks, and document repositories, though it is ultimately generated and applied through cognitive processes.

Q531. What is the main focus of Knowledge Discovery (KD) in the context of the text?

- a) The development of software for text and data mining
- b) The investigation and creation of knowledge from data collections
- c) The application of statistical techniques in citation studies
- d) The classification and organization of information retrieval systems

Answer: b) The investigation and creation of knowledge from data collections

Explanation: KD focuses on investigating and creating knowledge through the use of various processes, algorithms, and mechanisms for retrieving potential knowledge from data collections.

Q532. According to Don Swanson, what can be inferred from what has already been published?

- a) Explicitly stated knowledge
- b) Implicit knowledge that has never been stated or is not explicitly available
- c) Data and information in the literature
- d) Knowledge that is always documented in existing research

Answer: b) Implicit knowledge that has never been stated or is not explicitly available

Explanation: Swanson argues that knowledge which may be implicit in the literature can be inferred from existing published material.

Q533. What techniques are mentioned as aiding in Knowledge Discovery (KD)?

- a) Source linking and citation indexes
- b) Template mining and natural language processing
- c) Statistical techniques in citation studies and pattern recognition
- d) Hierarchies, trees, and faceted classification

Answer: c) Statistical techniques in citation studies and pattern recognition

Explanation: Statistical techniques, including those used in citation studies, bibliometric coupling, and pattern recognition, are mentioned as aiding in KD.

Q534. How do classification schemes contribute to Knowledge Discovery according to Kwasnik?

- a) By providing statistical analyses of document collections
- b) By enabling the representation of entities and relationships in structures that reflect domain knowledge
- c) By extracting hidden knowledge from humanities databases
- d) By creating pathways through the scientific literature

Answer: b) By enabling the representation of entities and relationships in structures that reflect domain knowledge

Explanation: Classification schemes help in representing entities and relationships in structures that reflect knowledge of the domain being classified.

Q535. What issue is highlighted in extracting hidden knowledge from humanities databases?

- a) Lack of technical language precision in literature
- b) Insufficient use of statistical techniques
- c) Over-reliance on digital information resources
- d) Difficulty in applying natural language processing techniques

Answer: a) Lack of technical language precision in literature

Explanation: Extracting hidden knowledge from humanities databases is problematic due to the imprecise nature of 'everyday' language used in the literature.

Q536. What does the paper by Swanson and Smallheiser (1999) examine?

- a) Template mining for digital documents
- b) Implicit text linkages in scientific literature for discovery
- c) Maximal Frequent Sequences (MFS) in document collections
- d) Co-word analysis and its applications in scientific literature

Answer: b) Implicit text linkages in scientific literature for discovery

Explanation: The paper examines how implicit text linkages between records can aid in scientific discovery.

Q537. What does the methodology for creating pathways through scientific literature focus on according to Small (1999)?

- a) Using maximal frequent sequences to find regularities
- b) Following co-citation links to trace development in science
- c) Template mining for extraction of data from

documents

d) Applying statistical techniques in citation studies

Answer: b) Following co-citation links to trace development in science

Explanation: Small's methodology focuses on creating pathways through literature by following co-citation links to trace the development of science.

Q538. What is a key challenge in template mining for information extraction from digital documents?

- a) The rapid growth of digital information resources
- b) The need for standardization in the presentation and layout of documents
- c) The complexity of natural language processing techniques
- d) The lack of available information extraction systems

Answer: b) The need for standardization in the presentation and layout of documents

Explanation: Standardization in the presentation and layout of information within digital documents is crucial for facilitating effective template mining.

Q539. What does the method of extracting Maximal Frequent Sequences (MFS) involve?

- a) Finding sequences of words that are frequent in document collections but are not part of any longer sequence
- b) Identifying keywords that appear in most documents
- c) Analyzing the frequency of phrases across multiple datasets
- d) Classifying documents based on frequent word patterns

Answer: a) Finding sequences of words that are frequent in document collections but are not part of any longer sequence

Explanation: MFS involves identifying sequences of words that frequently appear in document collections and are not contained within longer frequent sequences.

Q540. According to Pinto and Lancaster, what remains valuable even with the availability of complete text in electronic form?

- a) Abstracts for information retrieval activities
- b) Manual indexing and cataloging
- c) Printed documents and physical archives
- d) Traditional bibliographic tools

Answer: a) Abstracts for information retrieval activities

Explanation: Pinto and Lancaster conclude that abstracts continue to be valuable for information retrieval, even in sophisticated knowledge discovery applications.

Q541. What is the purpose of template mining in information extraction from digital documents according to Chowdhury?

- a) To analyze the frequency of word occurrences in text
- b) To extract data based on patterns recognized by templates
- c) To generate statistical models from text data
- d) To create structured databases from unstructured text

Answer: b) To extract data based on patterns recognized by templates

Explanation: Template mining involves using patterns recognized in text to extract data according to predefined instructions associated with those templates.

Q542. What is one of the key requirements for effective data mining as mentioned in the text?

- a) Data should be collected in real-time
- b) Data should be of high-quality and relevant to the domain
- c) Data should be manually curated and verified
- d) Data should be available in multiple formats

Answer: b) Data should be of high-quality and relevant to the domain

Explanation: For effective data mining, the collected data must be relevant and of high quality.

Q543. How does text mining differ from traditional search engines?

- a) Text mining uses keyword searches to locate documents, whereas search engines analyze document structure
- b) Text mining extracts and provides a navigable index of textual data, whereas search engines locate documents based on keywords
- c) Text mining indexes documents based on meta-data, while search engines rely on external links
- d) Text mining uses predefined templates, while search engines use machine learning techniques

Answer: b) Text mining extracts and provides a navigable index of textual data, whereas search engines locate documents based on keywords

Explanation: Text mining aims to extract and provide a dynamic, navigable index of textual data, whereas search engines primarily locate documents based on user keywords.

Q544. What does text mining help to uncover in unstructured text ?

- a) Narratives and evolving environments
- b) Structured data and metadata
- c) Real-time updates and dynamic information
- d) Data visualization and reporting tools

Answer: a) Narratives and evolving environments

Explanation: Text mining helps uncover narratives, learn about topics, explore evolving environments, and discover new ideas or relationships in unstructured text.

Q545. What challenge does text mining address in managing large collections of text?

- a) Data normalization across different formats
- b) Handling the constant changes and vast volume of text
- c) Creating structured databases from unstructured information
- d) Ensuring accurate metadata tagging

Answer: b) Handling the constant changes and vast volume of text

Explanation: Text mining addresses the difficulty of managing and analyzing the large, constantly changing volume of text data within an organization.

Q546. According to Chen, what is the trend in IT vendor approaches towards text mining technologies?

- a) A shift from basic search and retrieval to more sophisticated knowledge retrieval
- b) A focus on integrating simple search techniques with advanced analytics
- c) A preference for traditional data management systems over new text mining solutions
- d) An emphasis on manual data curation and indexing

Answer: a) A shift from basic search and retrieval to more sophisticated knowledge retrieval

Explanation: Chen notes a trend away from simple search and retrieval towards more sophisticated knowledge retrieval using text mining technologies.

Q547. What is a potential limitation of text mining when it comes to future multimedia products?

- a) Text mining alone may not be adequate
- b) Text mining tools lack the ability to process large volumes of text
- c) Text mining cannot handle structured data effectively
- d) Text mining requires extensive manual intervention

Answer: a) Text mining alone may not be adequate

Explanation: Text mining may not be sufficient for handling multimedia products, which will likely require additional methods beyond text mining alone.

Q548. What is the primary aim of linguistic analysis and NLP techniques in text processing?

- a) To identify key concept descriptors embedded in textual documents
- b) To perform statistical analysis on text data
- c) To classify documents into predefined categories
- d) To summarize textual documents for quick review

Answer: a) To identify key concept descriptors embedded in textual documents

Explanation: Linguistic analysis and NLP techniques aim to identify key concept descriptors such as who, what, where, and when within textual documents.

Q549. How does phrasal analysis differ from word-level analysis in text mining?

- a) Phrasal analysis focuses on extracting meaningful noun phrases, while word-level analysis deals with individual words
- b) Phrasal analysis is less scalable compared to word-level analysis
- c) Phrasal analysis lacks precision, whereas word-level analysis is precise
- d) Phrasal analysis is used for structured sentence

analysis, while word-level analysis is for semantic representation

Answer: a) Phrasal analysis focuses on extracting meaningful noun phrases, while word-level analysis deals with individual words

Explanation: Phrasal analysis aims to extract meaningful noun phrases or entities, whereas word-level analysis focuses on individual words.

Q550. What is a significant limitation of semantic analysis as mentioned in the text?

- a) It is too expensive and computationally intensive
- b) It requires significant knowledge base or domain lexicon creation
- c) It is not applicable for hierarchical clustering
- d) It lacks practical applications for specific domains

Answer: b) It requires significant knowledge base or domain lexicon creation

Explanation: Semantic analysis often requires a significant knowledge base or domain lexicon creation effort, making it less suitable for general-purpose text mining.

Q551. Which analysis level is considered more suitable for scalable text mining applications ?

- a) Word-level analysis
- b) Sentence-level analysis
- c) Phrasal-level analysis
- d) Semantic-level analysis

Answer: c) Phrasal-level analysis

Explanation: Phrasal-level analysis is considered more suited for scalable text mining applications, as word-level analysis is noisy and sentence-level analysis is too structured.

Q552. What technique is often used to create automatic thesauri or conceptual associations of extracted concepts?

- a) Link analysis based on statistical and co-occurrence techniques
- b) Hierarchical clustering
- c) Neural network clustering by Self-Organizing Map (SOM)
- d) Phrasal analysis and semantic grammar

Answer: a) Link analysis based on statistical and co-occurrence techniques

Explanation: Link analysis using statistical and co-occurrence techniques helps create automatic thesauri or conceptual associations of extracted concepts.

Q553. What is a key advantage of using the Self-Organizing Map (SOM) technique in text mining?

- a) It performs well and is fast, suited for large-scale text mining tasks
- b) It provides highly precise and computationally inexpensive clustering
- c) It integrates easily with human-created thesauri
- d) It focuses on structured data analysis rather than text

Answer: a) It performs well and is fast, suited for large-scale text mining tasks

Explanation: The Self-Organizing Map (SOM) technique is advantageous for large-scale text mining tasks due to its performance and speed.

Q554. How does visualization and Human-Computer Interaction (HCI) contribute to text mining?

- a) By creating automatic thesauri and conceptual associations
- b) By revealing concept associations and visualizing knowledge maps
- c) By performing statistical and neural network-

based clustering

- d) By providing domain-specific semantic analysis

Answer: b) By revealing concept associations and visualizing knowledge maps

Explanation: Visualization and HCI help reveal concept associations and visualize knowledge maps, enhancing the understanding and exploration of text data.

UNIT 16 KNOWLEDGE PROFESSION

Q555. What are the Five Laws of Library Science as enunciated by Dr. S.R. Ranganathan?

- a) Books are for use; Each reader his/her book; Each book its reader; Save the time of the reader; Library is a growing organism
- b) Books are for reading; Each reader his/her library; Each book its reader; Save the time of the library; Library is an evolving entity
- c) Books are for research; Each reader needs their book; Each book has a reader; Save the time of the staff; Library is a developing structure
- d) Books are for study; Each user his/her book; Each book its owner; Save the time of the user; Library is a changing institution

Answer: a) Books are for use; Each reader his/her book; Each book its reader; Save the time of the reader; Library is a growing organism

Explanation: The Five Laws of Library Science articulated by Dr. S.R. Ranganathan include principles focusing on the use of books, individual needs, the relationship between books and readers, efficiency, and the evolving nature of libraries.

Q556. According to Ranganathan, what constitutes the 'Book' in the context of library science?

- a) Soul, subtle body, and gross body
- b) Concept, content, and format

- c) Knowledge, presentation, and carrier
- d) Idea, language, and material

Answer: a) Soul, subtle body, and gross body

Explanation: Ranganathan defined the 'Book' as comprising the soul (ideas/knowledge), subtle body (language of expression, format), and gross body (physical carrier).

Q557. How can Ranganathan's Five Laws of Library Service be adapted for knowledge resources management and service in various organizations?

- a) By focusing on the use of knowledge, addressing individual needs, and ensuring efficiency
- b) By prioritizing physical materials, user engagement, and technological advancements
- c) By emphasizing the preservation of books, reader education, and library growth
- d) By addressing the classification of knowledge, storage techniques, and organizational growth

Answer: a) By focusing on the use of knowledge, addressing individual needs, and ensuring efficiency

Explanation: Ranganathan's Five Laws of Library Service can be adapted to knowledge resources management by focusing on the use of knowledge, catering to individual needs, and ensuring efficiency.

Q558. What does the principle "Knowledge is for use" imply in the context of knowledge management?

- a) Knowledge has no value unless it is utilized
- b) Knowledge should be preserved for future use
- c) Knowledge must be categorized and stored efficiently
- d) Knowledge should be accessible only to a select group

Answer: a) Knowledge has no value unless it is utilized

Explanation: The principle "Knowledge is for use" implies that knowledge only has value when it is actively utilized by individuals.

Q559. How does the principle "Each piece of knowledge (idea) its user" apply to knowledge resources management?

- a) Each piece of knowledge should be accessible to every user
- b) Each piece of knowledge should be tailored to meet the needs of a specific user
- c) Each user should have a unique piece of knowledge assigned to them
- d) Each piece of knowledge should be categorized based on user preferences

Answer: b) Each piece of knowledge should be tailored to meet the needs of a specific user

Explanation: The principle implies that each piece of knowledge should be made available and tailored to the needs of the specific user who requires it.

Q560. What does the principle "Knowledge (re)sources domain is a growing organism" suggest about knowledge management?

- a) The domain of knowledge resources is continuously evolving and expanding
- b) Knowledge resources should be periodically reviewed and updated
- c) The growth of knowledge resources should be controlled and regulated
- d) Knowledge resources should be categorized based on their growth stages

Answer: a) The domain of knowledge resources is continuously evolving and expanding

Explanation: This principle suggests that the knowledge resources domain is continuously

evolving, both physically and organically, requiring ongoing adaptation and development.

Q561. What is a significant impact of developments in information and communication technologies (ICTs) on knowledge management ?

- a) They have necessitated new approaches, strategies, and techniques to maximize their advantages
- b) They have reduced the need for traditional knowledge management practices
- c) They have made physical knowledge carriers obsolete
- d) They have simplified the management of knowledge seekers' needs

Answer: a) They have necessitated new approaches, strategies, and techniques to maximize their advantages

Explanation: Developments in ICTs have introduced changes that require new approaches, strategies, and techniques to fully benefit from technological advancements in knowledge management.

Q555. What are the Five Laws of Library Science as enunciated by Dr. S.R. Ranganathan?

- a) Books are for use; Each reader his/her book; Each book its reader; Save the time of the reader; Library is a growing organism
- b) Books are for reading; Each reader his/her library; Each book its reader; Save the time of the library; Library is an evolving entity
- c) Books are for research; Each reader needs their book; Each book has a reader; Save the time of the staff; Library is a developing structure
- d) Books are for study; Each user his/her book; Each book its owner; Save the time of the user; Library is a changing institution

Answer: a) Books are for use; Each reader his/her book; Each book its reader; Save the time of the reader; Library is a growing organism

Explanation: The Five Laws of Library Science articulated by Dr. S.R. Ranganathan include principles focusing on the use of books, individual needs, the relationship between books and readers, efficiency, and the evolving nature of libraries.

Q556. According to Ranganathan, what constitutes the 'Book' in the context of library science?

- a) Soul, subtle body, and gross body
- b) Concept, content, and format
- c) Knowledge, presentation, and carrier
- d) Idea, language, and material

Answer: a) Soul, subtle body, and gross body

Explanation: Ranganathan defined the 'Book' as comprising the soul (ideas/knowledge), subtle body (language of expression, format), and gross body (physical carrier).

Q557. How can Ranganathan's Five Laws of Library Service be adapted for knowledge resources management and service in various organizations?

- a) By focusing on the use of knowledge, addressing individual needs, and ensuring efficiency
- b) By prioritizing physical materials, user engagement, and technological advancements
- c) By emphasizing the preservation of books, reader education, and library growth
- d) By addressing the classification of knowledge, storage techniques, and organizational growth

Answer: a) By focusing on the use of knowledge, addressing individual needs, and ensuring efficiency

Explanation: Ranganathan's Five Laws of Library Service can be adapted to knowledge resources management by focusing on the use of knowledge, catering to individual needs, and ensuring efficiency.

Q558. What does the principle "Knowledge is for use" imply in the context of knowledge management?

- a) Knowledge has no value unless it is utilized
- b) Knowledge should be preserved for future use
- c) Knowledge must be categorized and stored efficiently
- d) Knowledge should be accessible only to a select group

Answer: a) Knowledge has no value unless it is utilized

Explanation: The principle "Knowledge is for use" implies that knowledge only has value when it is actively utilized by individuals.

Q559. How does the principle "Each piece of knowledge (idea) its user" apply to knowledge resources management?

- a) Each piece of knowledge should be accessible to every user
- b) Each piece of knowledge should be tailored to meet the needs of a specific user
- c) Each user should have a unique piece of knowledge assigned to them
- d) Each piece of knowledge should be categorized based on user preferences

Answer: b) Each piece of knowledge should be tailored to meet the needs of a specific user

Explanation: The principle implies that each piece of knowledge should be made available and tailored to the needs of the specific user who requires it.

Q560. What does the principle "Knowledge (re)sources domain is a growing organism" suggest about knowledge management?

- a) The domain of knowledge resources is continuously evolving and expanding
- b) Knowledge resources should be periodically

reviewed and updated

- c) The growth of knowledge resources should be controlled and regulated
- d) Knowledge resources should be categorized based on their growth stages

Answer: a) The domain of knowledge resources is continuously evolving and expanding

Explanation: This principle suggests that the knowledge resources domain is continuously evolving, both physically and organically, requiring ongoing adaptation and development.

Q561. What is a significant impact of developments in information and communication technologies (ICTs) on knowledge management ?

- a) They have necessitated new approaches, strategies, and techniques to maximize their advantages
- b) They have reduced the need for traditional knowledge management practices
- c) They have made physical knowledge carriers obsolete
- d) They have simplified the management of knowledge seekers' needs

Answer: a) They have necessitated new approaches, strategies, and techniques to maximize their advantages

Explanation: Developments in ICTs have introduced changes that require new approaches, strategies, and techniques to fully benefit from technological advancements in knowledge management.

Q562. What is the primary role of a Knowledge Professional (KP) within a corporate entity?

- a) To lead the corporate entity's strategic decisions
- b) To support the corporate entity through knowledge management functions
- c) To handle financial management and budgeting
- d) To develop and market knowledge products

Answer: b) To support the corporate entity through knowledge management functions

Explanation: The primary role of a Knowledge Professional is to support the corporate entity by managing and facilitating the use of knowledge within the organization.

Q563. According to Stewart (1998), what are the three pillars of the knowledge economy?

- a) Knowledge in transactions, knowledge assets, and knowledge management
- b) Knowledge creation, knowledge dissemination, and knowledge consumption
- c) Knowledge products, knowledge services, and knowledge integration
- d) Knowledge distribution, knowledge preservation, and knowledge innovation

Answer: a) Knowledge in transactions, knowledge assets, and knowledge management

Explanation: Stewart identifies three pillars of the knowledge economy: the role of knowledge in transactions, the rise of knowledge assets, and the management of knowledge materials.

Q564. How has the field of knowledge management evolved in recent years?

- a) It has become a niche field with limited industry impact
- b) It has expanded significantly, involving consulting firms and software companies
- c) It has declined in importance with the rise of financial management
- d) It has become obsolete due to advancements in other fields

Answer: b) It has expanded significantly, involving consulting firms and software companies

Explanation: The field of knowledge management has expanded widely, involving numerous consulting

firms and software companies, and has become a major industry.

Q565. What is one notable shift in the global economy mentioned in the text?

- a) From a knowledge-based economy to an agriculture-based economy
- b) From an industry-based economy to a knowledge economy
- c) From a service-based economy to a technology-based economy
- d) From a financial economy to an information economy

Answer: b) From an industry-based economy to a knowledge economy

Explanation: The text highlights a global shift from an industry-based economy to a knowledge economy, with the transition being more pronounced in industrial countries.

Q566. What impact has the shift to a knowledge economy had on traditional product production?

- a) Knowledge has been excluded from traditional product production
- b) Knowledge utilization has intensified in the production of traditional products
- c) Traditional product production has become obsolete
- d) Knowledge has been used primarily in financial management

Answer: b) Knowledge utilization has intensified in the production of traditional products

Explanation: The shift to a knowledge economy has led to increased use of knowledge in the production of traditional products.

Q567. How has the role of manual production workers changed in the knowledge economy?

- a) They are being replaced by technology
- b) They are being substituted by information/knowledge workers
- c) They are being promoted to knowledge management roles
- d) Their roles remain unchanged

Answer: b) They are being substituted by information/knowledge workers

Explanation: In the knowledge economy, manual production workers are increasingly being replaced by information and knowledge workers.

Q568. What types of organizations have emerged in the knowledge economy?

- a) Organizations focused on manual production
- b) Organizations devoted to knowledge-based product production and distribution
- c) Organizations focused solely on financial management
- d) Organizations that only handle traditional products

Answer: b) Organizations devoted to knowledge-based product production and distribution

Explanation: New types of organizations have emerged that focus primarily on the production, processing, and distribution of knowledge-based products.

Q569. How do rapidly evolving information and communication technologies (ICTs) impact enterprises?

- a) They have no significant impact on enterprises
- b) They significantly influence the operations and strategies of enterprises
- c) They have led to the decline of traditional enterprises

d) They only affect the marketing strategies of enterprises

Answer: b) They significantly influence the operations and strategies of enterprises

Explanation: The rapidly evolving ICTs have a significant impact on the operations and strategies of enterprises.

Q570. What is the most important source of knowledge and information ?

- a) Published documents and media
- b) Technological tools and systems
- c) People within and outside the organization
- d) Government and regulatory bodies

Answer: c) People within and outside the organization

Explanation: The most important source of knowledge and information is people, including their tacit knowledge, skills, conventions, traditions, and practices.

Q571. Who are some of the professionals involved in the digital environment, besides traditional knowledge professionals?

- a) Database designers, content developers, and web page designers
- b) Accountants, marketers, and legal advisors
- c) Human resource managers, financial analysts, and project managers
- d) Engineers, architects, and urban planners

Answer: a) Database designers, content developers, and web page designers

Explanation: In addition to traditional knowledge professionals, database designers, content developers, web page designers, and similar roles are involved in the digital environment.

Q572. What are some examples of heterogeneous digital information accessible via intranets and extranets?

- a) Printed newspapers, physical books, and magazines
- b) Emails, listservs, internal research reports, and e-journals
- c) Television broadcasts and radio programs
- d) Personal diaries and handwritten notes

Answer: b) Emails, listservs, internal research reports, and e-journals

Explanation: Examples of heterogeneous digital information include emails, listservs, internal research reports, and e-journals, among others.

Q573. What percentage of conventional publications and audio/video records is expected to be produced and stored in digital form over the next decade?

- a) 10%
- b) 20%
- c) 30%
- d) 50%

Answer: c) 30%

Explanation: It is expected that 30% of all conventional publications and audio/video records will be produced and stored in digital form in the coming decade.

Q574. By the end of 2003, how many people worldwide had access to the Internet from their homes?

- a) 200 million
- b) 300 million
- c) 400 million
- d) 500 million

Answer: d) 500 million

Explanation: By the end of 2003, about 500 million people worldwide had access to the Internet from their homes.

Q575. What technological convergence will facilitate virtual teamwork and global access to experts?

- a) Text, audio, and video technologies
- b) Print media and physical libraries
- c) Manual filing systems and paper records
- d) Single-purpose electronic devices

Answer: a) Text, audio, and video technologies

Explanation: Convergent technologies such as text, audio, video, and TV will facilitate virtual teamwork and global access to experts.

Q576. How will the direct access to information change the role of traditional intermediaries such as editors, indexers, and librarians?

- a) It will enhance their importance and demand
- b) It will reduce their involvement or change their current roles
- c) It will have no impact on their roles
- d) It will eliminate the need for digital information altogether

Answer: b) It will reduce their involvement or change their current roles

Explanation: Direct access to information will likely reduce the involvement of traditional intermediaries or change their current roles.

Q577. What does the key focus of the paradigm shift in information support functions of libraries as outlined by Soundara Rajan (2002)?

- a) From physical archives to digital-only collections
- b) From research support to administrative duties
- c) From warehouse-like functions to proactive

research and management support
d) **From digital resources to exclusive use of paper-based collections**

Answer: c) **From warehouse-like functions to proactive research and management support**

Explanation: The paradigm shift reflects a move from warehouse-like functions to proactive research and management support with desktop delivery.

Q578. According to the paradigm shift, how has the role of libraries changed in terms of document collections?

- a) **Libraries now focus exclusively on paper-based collections**
- b) **Libraries have expanded their collections to include more digital resources**
- c) **Libraries have reduced their collections to focus solely on physical books**
- d) **Libraries now only offer bibliographic services**

Answer: b) **Libraries have expanded their collections to include more digital resources**

Explanation: Libraries have shifted from mainly paper-based collections to including more digital resources available globally.

Q579. What new services are libraries providing according to the paradigm shift?

- a) **Only basic bibliographic services**
- b) **Value-added services, including analyzed abstracts, annotations, and repackaged knowledge**
- c) **Exclusive focus on manual intranets**
- d) **Outsourced knowledge management**

Answer: b) **Value-added services, including analyzed abstracts, annotations, and repackaged knowledge**

Explanation: Libraries are now providing value-added services such as analyzed abstracts, annotations, and repackaged knowledge.

Q580. What are the two main dimensions of knowledge product development discussed by Haravu and Neelamegham (2003)?

- a) **Collaboration dimension and the semantic dimension**
- b) **Technological dimension and the financial dimension**
- c) **User-centric dimension and the organizational dimension**
- d) **Marketing dimension and the distribution dimension**

Answer: a) **Collaboration dimension and the semantic dimension**

Explanation: The two main dimensions of knowledge product development are the collaboration dimension and the semantic dimension.

Q581. According to Stewart (1998), what should knowledge strategy start with?

- a) **Knowledge management**
- b) **A strategy for selling knowledge**
- c) **Developing new technologies**
- d) **Creating knowledge products**

Answer: b) **A strategy for selling knowledge**

Explanation: Stewart emphasizes that knowledge strategy should start with a strategy for selling knowledge.

Q582. What is involved in creating knowledge products as described in Stewart's approach?

- a) **Buying existing products and reselling them**
- b) **Distilling knowledge into a product or adding knowledge to an existing product**
- c) **Duplicating products and services from other**

providers

d) Ignoring user needs and focusing on product features

Answer: b) Distilling knowledge into a product or adding knowledge to an existing product

Explanation: Creating knowledge products involves either distilling and packaging knowledge into a product or adding knowledge to an existing product.

Q583. What is meant by "instilling knowledge" in the context of information resource centres?

- a) Creating new products from scratch
- b) Adding value to existing services and products to derive intelligence for users
- c) Replacing existing products with new ones
- d) Disregarding user feedback in product development

Answer: b) Adding value to existing services and products to derive intelligence for users

Explanation: Instilling knowledge means adding value to existing services and products to provide users with intelligence, such as business intelligence.

Q584. What should be the first step in developing a knowledge product marketing strategy?

- a) Identify the competitors
- b) Find out what knowledge customers are seeking and buying
- c) Develop new knowledge products
- d) Create a budget for marketing

Answer: b) Find out what knowledge customers are seeking and buying

Explanation: The first step is to find out what knowledge customers are seeking and buying, as these needs may not always be obvious.

Q585. What additional aspects should be considered in a knowledge product marketing strategy?

- a) Channel and delivery mechanisms
- b) Competitor analysis
- c) Product development costs only
- d) Branding and aesthetics

Answer: a) Channel and delivery mechanisms

Explanation: Additional aspects include identifying channels and delivery mechanisms to reach the enquirer and other potential users.

Q586. What is the main idea behind the "across-domain" criterion for ontology?

- a) Developing a new ontology for each subject domain
- b) Creating a single ontology that can be applied across multiple domains
- c) Restricting ontology use to a single domain
- d) Limiting ontology to only educational purposes

Answer: b) Creating a single ontology that can be applied across multiple domains

Explanation: The across-domain criterion involves creating a single ontology that can be applied across various knowledge domains to facilitate teaching and learning.

Q587. According to Neelameghan (2000), what role do catalogue systems play in knowledge-based construction?

- a) They create new knowledge
- b) They encode embodied knowledge for retrieval
- c) They eliminate the need for ontologies
- d) They focus only on digital information

Answer: b) They encode embodied knowledge for retrieval

Explanation: Catalogue systems encode embodied knowledge with categories and subcategories for retrieval, functioning as ontologies.

Q588. What does the concept of symmetry in classification schemes, as stressed by Ranganathan, signify?

- a) The classification scheme used for retrieval is different from the one used for analysis
- b) The same classification scheme is used for both analysis and retrieval
- c) Symmetry is not important in knowledge classification
- d) Classification schemes should be complex and varied

Answer: b) The same classification scheme is used for both analysis and retrieval

Explanation: Symmetry in classification schemes means that the classification scheme used for retrieval should be the same as the one used for analysis.

Q589. How should an ontology or language code help in the educational process ?

- a) By providing basic comprehension questions only
- b) By aiding teacher-learner communication and supporting analysis and synthesis of knowledge
- c) By limiting the scope of knowledge to specific domains
- d) By simplifying the content to basic levels only

Answer: b) By aiding teacher-learner communication and supporting analysis and synthesis of knowledge

Explanation: An ontology or language code should help in communication, analysis, synthesis, and handling expanding knowledge during the educational process.